

**BLUE RIDGE PARKWAY**  
VIRGINIA AND NORTH CAROLINA  

---

FINAL GENERAL MANAGEMENT PLAN/  
ENVIRONMENTAL IMPACT STATEMENT

JANUARY 2013







# United States Department of Interior

NATIONAL PARK SERVICE  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803



(DSC-P)  
BLRI 070759

Dear Friends of the Blue Ridge Parkway,

I am very pleased to announce the release of the Final General Management Plan and Environmental Impact Statement for the Blue Ridge Parkway. It is the culmination of a great deal of time, energy, and input from members of the public, other agencies, and the National Park Service. Please take time to look it over.

This final general management plan provides comprehensive guidance for perpetuating natural systems, preserving cultural resources, and providing opportunities for quality visitor experiences along the parkway for the next 20+ years. After more than 75 years since the parkway was established, this is the parkway's first comprehensive management plan. Developing a vision for the parkway's future—and the management strategies to create that future—is the primary goal of this planning effort.

Alternative B has been identified as the National Park Service's preferred management approach. The preferred alternative emphasizes the original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities, increasing regional natural resource connectivity, strengthening connections with adjacent communities, and providing modest improvements to visitor services. Your comments on the draft plan have led to the refinement of certain management strategies and other supporting information contained in this final version. Please refer to the Consultation and Coordination chapter for more information about these revisions.

The National Park Service values the public's interest in the Blue Ridge Parkway, and we look forward to implementing this plan with your support and collaboration.

Sincerely,

Philip A. Francis, Jr.  
Superintendent





## **Final General Management Plan / Environmental Impact Statement Blue Ridge Parkway Virginia and North Carolina**

Blue Ridge Parkway was authorized by an act of Congress on June 30, 1936 (Public Law 74-848/ August 25, 1916, and Public Law 39 Stat. 535). The parkway has never had a general management plan. The National Park Service (NPS) developed visitor facilities and has operated the parkway since establishment using a master plan and Parkway Land Use Maps for guidance, as well as applicable laws and policies. This plan and the maps have served the parkway well for many years during the period of development and parkway road completion. However, the master plan is seriously outdated and the parkway is now facing an increasing array of issues that require guidance thorough an approved general management plan.

This document examines three alternatives for managing the parkway for the next 20 or more years. It also analyzes the impacts of implementing each of the alternatives. The “no-action” alternative, **alternative A**, consists of the existing parkway management and trends and serves as a basis for comparison in evaluating the other alternatives. The two action alternatives (**alternative B**, the National Park Service’s preferred alternative, and **alternative C**) present a spectrum of enhancements to outdoor recreational opportunities, regional resource connectivity, and cultural heritage resources and experiences.

*A Draft General Management Plan / Environmental Impact Statement* was distributed to other agencies and interested organizations and individuals for their review and comment. Changes and clarifications were made to the plan in response to comments received. Following the distribution of the final plan and a 30-day no-action period, a “Record of Decision” may be signed by the parkway superintendent and the NPS regional director documenting the NPS selection of an alternative for implementation.

For further information on this plan, contact Blue Ridge Parkway headquarters at 199 Hemphill Knob Road, Asheville, NC 28803.



# SUMMARY

## INTRODUCTION

Blue Ridge Parkway was authorized by an act of Congress on June 30, 1936 (Public Law 74-848/ August 25, 1916, and Public Law 39 Stat. 535). The parkway has never had a general management plan. The National Park Service developed visitor facilities and has operated the parkway since establishment using a master plan and Parkway Land Use Maps for guidance, as well as applicable laws and policies. This plan and the maps have served the parkway well for many years during the period of development and parkway road completion. However, the master plan is seriously outdated and the parkway is now facing an increasing array of issues that require guidance thorough an approved general management plan. A new plan is needed to:

- Clearly define resource conditions and visitor experiences to be achieved at the Blue Ridge Parkway.
- Provide a framework for National Park Service managers to use when making decisions about how to best protect parkway resources, how to provide a diverse range of visitor experience opportunities, how to manage visitor use, and what kinds of facilities, if any, to develop in the national park system unit.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

This *Final General Management Plan / Environmental Impact Statement* presents three alternatives for the future management of Blue Ridge Parkway. The alternatives, which are based on the parkway's purpose, significance, and special mandates, present different ways to manage resources and visitor use and improve facilities and infrastructure. The three alternatives are the no-action

alternative (continue current management), alternative B, and alternative C. Alternative B has been identified as the National Park Service's preferred alternative.

Additional actions and alternatives were considered. However, these actions and alternatives were dismissed from further analysis. These dismissed actions and alternatives are presented, along with rationale, in "Chapter 2: Alternatives."

## **ALTERNATIVE A: THE NO-ACTION ALTERNATIVE (CONTINUE CURRENT MANAGEMENT)**

The no-action alternative consists of a continuation of existing management and trends at the parkway and provides a baseline for comparison in evaluating the changes and impacts of the other alternatives. The National Park Service would continue to manage the parkway as it is currently being managed, but there is not a comprehensive parkway-wide resource and visitor use management direction for setting priorities. Resource and visitor use issues and conflicts would continue to be resolved on a case-by-case basis without the guidance of an agreed upon parkway-wide management strategy.

Under this alternative, the parkway would continue to be managed primarily as a scenic recreational driving experience and designed landscape, as conceived and realized over several decades, from the founding vision of the park in 1935 to at least 1955, and possibly later. (A national historic landmark nomination which is now underway will provide a comprehensive analysis of the exceptional qualities of the parkway and a definitive statement of its period of significance.) The original driving experience was designed for ideal picturesque scenery ranging from landscaped roadsides to quaint Appalachian settlements to rolling pastoral farm fields to imposing mountain vistas.

Although parkway managers would continue to strive to maintain the various aspects of the original designed landscape and scenic driving concept, the parkway would continue to adjust daily management practices to respond to current laws and policies, natural and cultural resource management mandates, visitor safety needs, infrastructure deficiencies, fiscal constraints, changes in regional conditions, and changes in visitor use.

Partnerships would continue to be an integral part of park management, but would still be used for specific projects as opportunities arise, rather than pursuing a regional strategy to address issues through partnerships both inside parkway boundaries and beyond.

### **ALTERNATIVE B (NATIONAL PARK SERVICE PREFERRED)**

Under alternative B, the parkway would be actively managed as a traditional, self-contained, scenic recreational driving experience and designed landscape. To support that experience, many of the parkway's recreation areas would provide enhanced opportunities for dispersed outdoor recreation activities.

Although similar to alternative A, this alternative would more proactively blend newer law and policy requirements and operational constraints with the traditional parkway concept developed during the parkway's historic period of significance, which is 1935 to at least 1955. (A national historic landmark nomination which is underway will provide a comprehensive analysis of the exceptional qualities of the parkway and a definitive statement of its period of significance.) As a result, this alternative would provide a better balance between traditional parkway experiences and modern-day management realities. For example, some areas would be managed differently to address natural and cultural resource concerns and visitor experiences or to achieve critical operational efficiencies.

This alternative would provide a comprehensive parkway-wide approach to resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and development would be applied to parkway lands consistent with this concept. This alternative would also seek to enhance resource protection, regional natural resource connectivity, and build stronger connections with adjacent communities.

### **ALTERNATIVE C**

Under alternative C, parkway management would be more integrated with the larger region's resources and economy. More emphasis would be placed on reaching out to communities and linking to regional natural, recreational, and cultural heritage resources and experiences.

The parkway would continue to be managed to retain the fundamental character of the traditional designed landscape and scenic driving experience. However, a variety of more modern recreational and visitor service amenities would be provided, primarily concentrated in visitor services areas. As a result, portions of some recreation areas would be redesigned.

Parkway lands away from the visitor services areas would be managed primarily to enhance regional natural resource connectivity and scenic qualities. This alternative would also enhance visitors' ability to connect to, explore, and learn about the region's natural and cultural heritage. For example, parkway programs and facilities would be used to direct visitors to heritage trails, scenic byways, and other public lands.

This alternative would provide a comprehensive parkway-wide approach to resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and



development would be applied to parkway lands consistent with this concept.

### **THE NEXT STEPS**

This *Final General Management Plan / Environmental Impact Statement* includes letters from governmental agencies, any substantive comments on the draft document, and National Park Service responses to those comments. The final plan also includes changes and clarifications made to the document in response to comments received.

Following distribution of the final plan and a 30-day no-action period, a “Record of Decision” approving a final plan will be signed by the National Park Service regional director. The “Record of Decision” documents the National Park Service selection of an alternative for implementation. With the signed “Record of Decision”, the plan can then be implemented, depending on funding and staffing. However, a “Record of Decision” does not guarantee funds and staff for implementing the approved plan.



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## A GUIDE TO THIS DOCUMENT

This *Final General Management Plan / Environmental Impact Statement* is organized in accordance with the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act, the NPS Director's Order 12, *Conservation Planning, Environmental Impact Analysis, and Decision-making*, and the NPS *General Management Planning Dynamic Sourcebook*.

**Chapter 1: Purpose and Need** sets the framework for the entire document. It describes why the plan was prepared and what needs it addresses. It gives guidance for these considerations, which are based on the Blue Ridge Parkway's legislated mission, its purpose, the significance of its resources, special mandates and administrative commitments, servicewide mandates and policies, and other planning efforts in the area.

The chapter also details the planning opportunities and issues that were raised during public scoping meetings and initial planning team efforts. The alternatives developed and presented in the next chapter address these issues and concerns to varying degrees. This chapter concludes with a statement of the scope of the environmental impact analysis—specifically what impact topics were retained or dismissed from detailed analysis and why.

**Chapter 2: Alternatives** begins with an explanation of how the alternatives were formulated and how the preferred alternative was identified. A comparison of costs for implementing the alternatives is also included. The three alternatives (including continuation

of current management) are then presented. Mitigation measures to minimize or eliminate the impacts of some proposed actions are described just before the discussion of future studies and/or implementation plans that would be needed. The evaluation of the environmentally preferred alternative is followed by summary tables of the environmental consequences of implementing the alternative actions.

**Chapter 3: Affected Environment** describes those areas and resources that would be affected by implementing actions in the various alternatives—cultural resources, natural resources, visitor use and experience, park operations, and socioeconomic environment.

**Chapter 4: Environmental Consequences** analyzes the impacts of implementing the alternatives on topics described in “Chapter 3: Affected Environment.” Methods that were used for assessing the impacts in terms of the locality, intensity, type, and duration of impacts are outlined at the beginning of the chapter.

**Chapter 5: Consultation and Coordination** describes the history of public and agency coordination during the planning effort and any future compliance requirements; it also lists agencies and organizations who will be receiving copies of the document and NPS responses to comments received on the draft plan.

The **Appendixes** present supporting information for the document, along with references and a list of the planning team and other consultants.



# INTRODUCTION, PURPOSE, AND NEED

# 1



*Puckett Cabin*



*Julian Price Lake*



## INTRODUCTION

This *Final General Management Plan / Environmental Impact Statement* presents and analyzes three alternative future directions for the management and use of the Blue Ridge Parkway. The potential environmental impacts of the alternatives have been identified and assessed.

General management plans are intended to be long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in units of the national park system. General management plans usually provide guidance during a 15- to 20-year period.

Actions directed by general management plans or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future.

### **BACKGROUND ON PLAN DEVELOPMENT**

Developing a vision for the park's future (and identifying the management direction that would help create that future) is the primary role of the general management plan. However, before a particular vision is decided upon, several possible visions and management directions are developed and analyzed. These different possibilities are called alternatives. Each alternative includes a variety of potential strategies that fit together in a unified management direction. The development of alternatives included a wide range of input from the public, National Park Service (NPS) staff, and other agencies.

Evaluating alternatives enables one to compare and contrast the advantages and disadvantages of one course of action over another. Such comparison is a requirement of

the National Environmental Policy Act (NEPA) and is at the core of the NPS general management plan process. In order to organize information and formulate alternatives appropriate to the 469-mile length of the parkway, planners approached the analysis of the parkway at three levels: (1) the parkway as a whole; (2) the parkway divided into seven segments based primarily on physiographic characteristics; and (3) the parkway's "pearls on a string"—the recreation areas.

### **Management Zones**

An important tool used by planners in the general management plan process is the development of management zones. These zones prescribe desired conditions for parkway cultural and natural resources and for visitor experiences. The conditions are different in each zone and are intended to represent the widest possible range of conditions that would be appropriate to a park's purpose and significance. Eight management zones were developed for the parkway; ideas for the range of management zones came from public comments and from parkway staff.

### **Exploration of Alternatives**

In NPS planning, alternative future directions for a park are developed by allocating management zones to various geographic locations in different combinations. Allocation of management zones is guided by the overall concept for each alternative. For example, a park could be managed under a concept emphasizing high recreational activity and visitor interaction, or a concept emphasizing primitive natural resource values, or a concept emphasizing remote recreation and visitor solitude. While these concepts would overlap in some ways, it is easy to imagine that these different emphases would require various areas of the park to be

managed differently. These kinds of differences are presented on maps that allocate management zones according to the different alternative concepts.

This general management plan presents the three alternatives for future management for the Blue Ridge Parkway. Management zones consistent with each alternative are presented on a map that shows the entire parkway and on other maps that show each of the parkway segments and the recreation areas in that segment.

To facilitate comparison of the three alternatives, each one was developed as closely as possible in accordance with its guiding concept. Public comments on the alternatives in the draft plan helped the National Park Service refine the alternatives and management zones. Those alternatives are presented in this *Final General Management Plan / Environmental Impact Statement*.

## **BRIEF DESCRIPTION OF THE PARK**

Congress allocated funds for the initial construction of the Blue Ridge Parkway to traverse a substantial portion of Virginia and North Carolina, on June 16, 1933, under authority of the National Industrial Recovery Act (48 Stat. 195, Public Law 73-67). Congress then authorized the National Park Service to administer and manage the parkway on June 30, 1936 (49 Stat. 2041, Public Law 74-848) as amended on June 8, 1940 (54 Stat. 249, Public Law 76-566).

The parkway is in Virginia and North Carolina in the central and southern Appalachian Mountains. It is 469 miles long and connects Shenandoah National Park to the north with Great Smoky Mountains National Park to the south. Created as a national rural roadway with limited access, the parkway was designed for pleasant motoring, a form of recreational driving free from commercial traffic. The Blue Ridge Parkway travels the crests, ridges, and valleys of five major mountain ranges, encompassing several geographic and vegetative zones ranging from

600 to over 6,000 feet above sea level. It provides visitors with many varied vistas of scenic Appalachian landscapes ranging from forested ridge tops and mountain slopes to rural farm lands to urban areas. The parkway offers a “ride-a-while, stop-a-while” experience that includes scenic pullouts, recreation areas, historic sites, and visitor contact stations. It is known nationally and internationally for its designed landscape as a scenic motorway.

The parkway is many things to many people. It is the longest road planned as a single park unit in the United States. It is an extremely elongated national park system unit that protects significant mountain landscapes far beyond the shoulders of the road itself. It is a series of parks providing visitors access to high mountain passes, splendid natural “gardens” of flowering mountain plants, waterfalls and water gaps, deep forests, and upland meadows. It is a continuous series of panoramic views, the boundaries of its limited right-of-way rarely apparent and miles of the adjacent countryside seemingly a part of the protected scene. It is a “museum of the managed American countryside,” preserving the roughhewn log cabin of the mountain pioneer, the summer home of a textile magnate, and traces of early industries such as logging railways and an old canal. It is the product of a series of major public works projects which provided a boost to the travel and tourism industry and helped the Appalachian region climb out of the depths of the Great Depression. It is an important neighbor that links 29 counties through two states and shares boundaries with other national park system units, national forests, tribal lands, and state parks.

The Blue Ridge Parkway corridor is a complex area of overlapping jurisdictions, interests, and responsibilities. Strong and coordinated external relations are vital to the parkway's role and mission. Formal and informal partner organizations provide essential services, staffing, funding, and innovative solutions to management of this linear park and the corridor through which it passes. And, it is the most heavily visited national park.



To help the reader comprehend the sheer size and extent of the parkway, the following “parkway by the numbers” highlights a few remarkable statistics:

### CULTURAL RESOURCES

Historic Buildings: 91  
 Cultural Landscapes: 20  
 Miles of Roads: 558  
 Road Tunnels: 26  
 Road Bridges: 176  
 Road Overlooks: 281  
 Parking Areas: 101  
 Maintained Roadside Vistas: 910  
 Total Number of Views: 1,228  
 Archeological sites identified: >200  
 Artifacts in collection: >690,000  
     10,500 archeological  
     32,000 biological  
     2,400 geological

### NATURAL RESOURCES

Vascular Plant Diversity: 1,614 species  
 Amphibian Diversity: 43 species  
 Distinct Plant Communities: 75 (10 considered globally rare, 3 considered globally imperiled)  
 Federally Listed Threatened and Endangered Species: 5  
 Watersheds: 15  
 Miles of Streams: 600 (115 Headwaters)  
 Peaks above 5,000 feet: 16  
 Parkway Intersects:  
     3 mountain ranges  
     6 Army Corps districts  
     4 state land & water quality districts  
     2 Fish & Wildlife service agencies  
     29 Natural Resource Conservation Service offices

### INTERPRETATION AND EDUCATION (2010)

Curriculum Based Programs: 1,348 (42,246 students)  
 Completed Jr. Ranger Program: 2,199 students  
 Visitor Center Contacts: 944,712  
 Demos/Performance Art Events: 1,466 (351,854 visitors reached)  
 Special Events: 31 (68,830 visitors attended)  
 Website Hits: 1.5 million

### LANDS

Fee Simple: 81,785 acres  
 Scenic Easement: 2,776 acres  
 Miles of Boundary: 1,200  
 Adjacent Private Landowners: >4,000  
 Private Road At-grade Accesses: 101  
 State Secondary Road At-grade Accesses: 199  
 National Forests Crossed: 4  
 Counties Traversed: 29

### LAW ENFORCEMENT AND PROTECTION (2009)

Special Use Permits Issued: 607  
 Class A & B offenses: 627  
 Basic Life Support incidents: 69  
 Advanced Life Support incidents: 35  
 Searches and Rescues by NPS: 21  
 Agreements with external law enforcement agencies: 20  
 Rural Fire Agreements: 53

### ANNUAL VISITATION

Recreational Visitors: 16 Million  
 Annual Off Pkwy Economic Impact: \$2.3 Billion

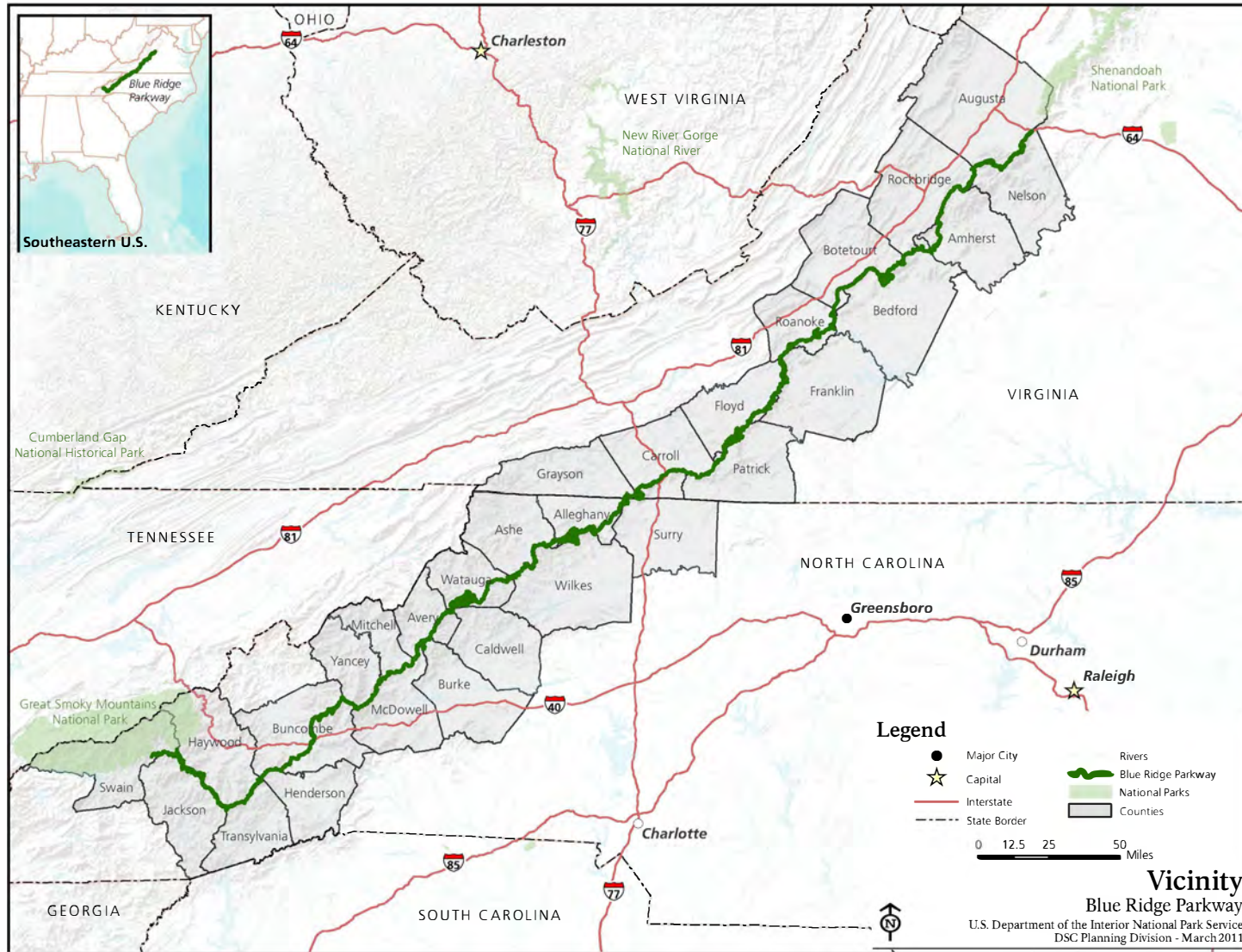
### VISITOR SERVICES

Visitor Centers: 14  
 Miles of Trails: 369  
 Campgrounds: 9  
 Amphitheaters: 10  
 Picnic Areas: 13  
 Concession Lodges: 3  
 Concession Food Service: 6  
 Book or Craft Shops: 18

### OTHER INFRASTRUCTURE

Water Systems: 45  
 Sewer Systems: 95  
 Dams: 29  
 Maintenance Offices: 14  
 Law enforcement Offices: 13  
 Park Radio Towers: 10  
 Road Signs: 14,000+

### Blue Ridge Parkway Vicinity Map



## **PURPOSE OF THE PLAN**

When approved, this general management plan will be the central document for managing the Blue Ridge Parkway for the next 20+ years. The purposes of this general management plan are as follows:

- Confirm the purpose, significance, and special mandates of the Blue Ridge Parkway
- Clearly define resource conditions and visitor uses and experiences to be achieved in the parkway
- Provide a framework for parkway managers to use when making decisions about how to best protect resources, provide quality visitor uses and experiences, manage visitor use, and develop facilities in/near the park
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action

Legislation establishing the National Park Service as an agency and governing its management provides the fundamental direction for the administration of the parkway (and other units and programs of the national park system). This general management plan will build on these laws and the legislation that established the parkway to provide a vision for the park's future. The "Servicewide Mandates and Policies" section of this chapter calls the reader's attention to topics that are important to understanding the management direction at the park. The alternatives in this general management plan address desired future conditions that are not mandated by law and policy and must, therefore, be determined through a planning process.

The general management plan does not describe how particular programs or projects for the parkway should be prioritized or implemented. Those decisions would be addressed in the future through more detailed planning efforts. All future plans relating to

programs or projects will tier from the approved general management plan.

## **NEED FOR THE PLAN**

The Blue Ridge Parkway has never had an approved general management plan. For the first 52 years of the parkway's existence, a major focus of management was to complete construction of the parkway, its designed landscape, and several major and minor recreation areas. This development was guided by master plans developed in the late 1930s and early 1940s. Once sections of the parkway were constructed, their management and maintenance was guided by a series of Parkway Land Use Maps, designed to maintain various aspects of the parkway designed landscape. With the parkway's completion in 1987, the focus of parkway management shifted to ensuring that the parkway's scenic, natural, cultural, and recreational qualities would be protected into the future.

The Parkway Land Use Maps provided the "as-built" documentation and long-term management intent for the roadway and associated roadside plantings and structures, recreation areas, trails, etc. Other information was illustrated on the maps, such as adjacent land ownership, location of deed reserved private and public roads, utilities and scenic easements. The Parkway Land Use Maps continue to serve as the parkway's guidance for the location of reserved easements. However, today these maps are largely outdated due to changed conditions and lack of a comprehensive management approach to address an increasing array of issues confronting the park.

With a 20+ year lifespan, this general management plan provides the far-reaching, comprehensive management approach that is essential to guide the future of the parkway. The plan also fulfills the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate development of a general management plan for each unit in the national park system.

Today, the parkway encompasses 82,000 acres of federal land. It shares over 1,000 miles of boundary with some 4,000 adjacent landowners, eight associated federally recognized tribal governments, 29 counties, and several towns and cities. The parkway offers 500,000 acres of scenic viewsheds within a mile of its boundary. There are 199 public secondary at-grade access points from regional road systems. Many of these roads have recently been or are in the process of being improved by the states of North Carolina and Virginia, resulting in more residential development, traffic, and loss of scenery adjacent to the parkway.

The parkway is now situated in a much broader resource and visitor context that extends both physically and philosophically far beyond its boundaries. It is this ever-changing dynamic that is driving the need to reexamine past and current approaches to the parkway's management and use.

## **THE NEXT STEPS IN THE PLANNING PROCESS**

This *Final Blue Ridge Parkway General Management Plan / Environmental Impact Statement* includes comment letters from governmental agencies, any substantive comments on the draft document, and NPS responses to those comments. Following distribution of the final general plan and a 30-day no-action period, a "Record of Decision" approving this plan may be signed by the NPS regional director and published in the *Federal Register*. The "Record of Decision" documents the NPS selection of an alternative for implementation. With the signing of the "Record of Decision," implementation of the plan can begin.

## **IMPLEMENTATION OF THE PLAN**

Implementation of the approved plan would depend on future funding. The approval of a plan does not guarantee that the funding and staffing needed to implement the plan would be forthcoming. Full implementation of the

approved plan could be many years in the future.

The implementation of the approved plan may also be affected by other factors. Once the general management plan has been approved, additional feasibility studies and more detailed planning and environmental documentation would be completed, as appropriate, before any proposed actions can be carried out. For example:

- Appropriate permits would be obtained before implementing actions that would impact wetlands.
- Appropriate federal and state agencies would be consulted concerning actions that could affect threatened and endangered species.
- Native American tribes, state historic preservation officers, local governments, and the public would be consulted.

The general management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions would be addressed during more detailed planning efforts associated with the development of future strategic and implementation plans. All future plans will tier from the approved general management plan and will be based on the goals, future conditions, and appropriate types of activities established in it.

## FOUNDATION FOR PLANNING AND MANAGEMENT

### PARK PURPOSE

Purpose statements provide the foundation for the management and use of each unit of the national park system; they also reaffirm the reasons why each area was established as a unit of the national park system. These statements help visitors, neighbors, cooperating agencies, and other users understand the framework in which park managers make decisions.

The following purpose statements are based on the Blue Ridge Parkway's enabling legislation as well as laws and policies governing management of all national park system units. The purposes of the Blue Ridge Parkway are to

- connect Shenandoah and Great Smoky Mountains national parks by way of a “national rural parkway”—a destination and recreational road that passes through a variety of scenic ridge, mountainside, and pastoral farm landscapes;
- conserve the scenery and preserve the natural and cultural resources of the parkway's designed and natural areas;
- provide for public enjoyment and understanding of the natural resources and cultural heritage of the central and southern Appalachian Mountains; and
- provide opportunities for high-quality scenic and recreational experiences along the parkway and in the corridor through which it passes.

### PARK SIGNIFICANCE

Significance statements capture the essence of the park's importance to our country's natural and cultural heritage. Significance statements do not inventory resources; rather, they describe the parkway's distinctiveness and help to place the parkway in its regional, national, and international contexts. Defining

the park's significance helps managers make decisions that preserve the resources and values necessary to accomplish the national park's purpose.

The following statements define the significance of the Blue Ridge Parkway:

- The Blue Ridge Parkway was the first national rural parkway to be conceived, designed, and constructed for a leisurely driving experience. Its varied topography and numerous vista points offer easy public access to spectacular views of central and southern Appalachian rural landscapes and forested mountains.
- As an example of pre- and post-World War II era automotive rural parkway design, the parkway retains an exceptionally high degree of integrity. The parkway is further recognized throughout the world as an international example of landscape and engineering design achievements with a roadway that lies easily on the land and blends into the landscape.
- The parkway is the highest and longest continuous route in the Appalachian area. Along its 469-mile length, the parkway provides scenic access to crests and ridges of five major ranges in the central and southern Appalachian Mountains, encompassing geographic and vegetative zones that range from 649 feet at James River in Virginia to 6,047 feet at Richland Balsam in North Carolina.
- The parkway's uninterrupted corridor facilitates the protection of a diverse range of flora and fauna, including rare and endangered plant and animal species and globally imperiled natural communities.
- The parkway preserves and displays cultural landscapes and historic architecture characteristic of the central and southern Appalachian highlands.

- The parkway is a primary catalyst for promoting regional travel and tourism, serving as a unifying element for 29 counties through which it passes, engendering a shared regional identity, providing a common link of interest, and being a major contributor to regional economic vitality.

## FUNDAMENTAL RESOURCES AND VALUES

Fundamental resources and values warrant primary consideration during planning because they are critical to achieving the park's purpose and maintaining its significance. The following resources and values are central to managing the parkway and express the importance of the parkway to our natural and cultural heritage.

### Cultural Resources

**The Parkway Historic Designed Landscape.** The Blue Ridge Parkway is the premier example of a national parkway designed for recreational motoring through rural scenery. The parkway is an exceptionally important work of design in the fields of landscape architecture and civil engineering. As a combination of scenic road and linear park, it represents a fusion of modern engineering with scenic landscape design. The original parkway road right-of-way and the sites and developments proposed as part of the 1936 master plan are elements of the designed landscape.

**Landscapes of Southern and Central Appalachian Context.** Several sites along the parkway, including the Blue Ridge Music Center and the Folk Art Center, are focused on the perpetuation and interpretation of regional cultural expression. The origins of Blue Ridge traditional culture are dying out, and the National Park Service plays a role in documenting and celebrating examples of traditional culture.

**Sites Associated with Local Communities.** Many sites along the parkway have an affiliation with the parkway purpose and significance, but have greater values as character defining features of local communities and traditions. Such sites include Yankee Horse Railroad, Kelley School, Harris Farm, Moses H. Cone Park, and the Over the Mountain Victory Trail, among others.

### Natural Resources

**Globally Imperiled Communities.** The parkway protects several ecosystems that are of global significance. These include spruce/fir forests, rocky outcrops and granitic domes, grassy balds, and high-elevation wetlands. The parkway is also considered a keystone area in which to track environmental changes related to water and air quality that could affect the entire region.

**Rare and Endangered Plants, Animals, and Communities.** The parkway contains 12 federally listed and over 100 state listed species; and new species are being discovered. These species of concern include the Peaks of Otter salamander, bog turtles, timber rattlesnakes, and numerous others.

### Visitor Experience Values

**Visual and Leisure Driving Experiences.** When asked about the special values that are most important to their parkway experience, visitors describe the beauty of the views from and along the roadway. The natural setting of mountains and valleys, the peacefulness of rural and pastoral landscapes, and the dramatic high-elevation vistas are frequently highlighted by visitors. This idyllic scenery was integral to the experience intended by parkway designers.

The character of the parkway travel experience is also featured. Peace, solitude, leisure, freedom from traffic and speed, and the absence of commercial advertising are frequently mentioned as aspects of the

parkway experience that are particularly valued.

**Recreational Experiences.** Ready access to recreational opportunities also has high value to parkway visitors. Trails, both in the parkway and accessible from the park, are most frequently mentioned as important recreational facilities.

### **Regional Connectivity**

**Travel and Tourism.** The Blue Ridge Parkway, by virtue of its 469-mile length, provides a travel and tourism facility that unites a 29-county region in Virginia and North Carolina. The opportunity for some 20 million visitors each year to sample its scenic and recreational resources has established the parkway as a primary tourism magnet for the region. Parkway visitors spend some \$2.2 billion per year in communities outside the parkway boundary.

### **PRIMARY INTERPRETIVE THEMES**

Primary interpretive themes are the most important ideas or concepts to be communicated to the public about a national park system unit. Their consistent use in park programs, events, exhibits, and publications helps increase visitor understanding and appreciation of park resources and values. The following interpretive themes have been developed for the Blue Ridge Parkway.

#### **Parkway Design / Landscape**

The Blue Ridge Parkway originated to generate employment and promote tourism in the mountains of southern Appalachia; it continues to influence and provide great economic benefits to the region.

The Blue Ridge Parkway incorporates innovative and enduring design, engineering, and construction techniques that harmonize with the southern Appalachian landscape.

The Blue Ridge Parkway is a linear park unit threaded by a road in which visitor driving and enjoyment of scenery is the primary objective.

The Blue Ridge Parkway is a human-manipulated environment that continues to shape parkway management practices.

### **Biology**

The Blue Ridge Parkway has a wide diversity of habitat, and thus, supports as many plant species as any other national park system unit in the United States.

The Blue Ridge Parkway provides a protected migration corridor for many forms of life. Visitors and residents have long interacted with the Appalachian environment, both adapting to and altering the natural history of the area.

### **Geology**

The Blue Ridge Parkway stands at the summit of many local and regional watersheds that define the hydrological patterns of much of the southeastern United States. The five mountain ranges of the parkway include the oldest mountain-building processes in the world and contain economically significant minerals.

### **Air Quality, Weather, Climate**

Activities of people living outside the Blue Ridge Parkway and extreme weather conditions in the southern Appalachian Mountains influence the natural resources, visitation patterns, and air quality of the parkway.

### **Human Culture**

The Blue Ridge Parkway conserves diverse and important examples of architecture, industry and transportation associated with

the people and communities of the mountains in southern Appalachia.

The Blue Ridge Parkway preserves evidence of human occupation from prehistoric to contemporary times.

Many Blue Ridge Parkway sites have been tourist and vacation destinations for more than two centuries.

A unique Appalachian culture, defined by arts, crafts, music, and social institutions, has evolved and persisted in the region through which the Blue Ridge Parkway passes.

### **SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS**

Special mandates and administrative commitments refer to requirements for the parkway that are specified in laws or formal agreements. Consequently, these requirements are not open for reevaluation as a part of the general management plan; instead, they serve as guidelines with which planning proposals must be consistent. Mandates and administrative commitments that influence the Blue Ridge Parkway general management plan include the following:

#### **Memorandum of Understanding between the National Park Service and U.S. Forest Service**

On June 20, 1941, established procedures for determining the boundaries of the parkway where it passes through national forests and for protecting the scenic values of these lands and identified the management responsibilities of each agency to meet these goals.

#### **Memorandum of Understanding between the National Park Service and the North Carolina Department of Natural Resources and Wildlife Resources Commission**

This agreement signed on December 16, 2011, establishes standards, terms, and conditions under which the Wildlife Resources Commission will conduct surveys of Carolina northern flying squirrels on lands owned and accessed by Blue Ridge Parkway.

#### **Memorandum of Understanding between the National Park Service and the Virginia Department of Game and Inland Fisheries**

The Virginia Department of Game and Inland Fisheries and the National Park Service agree to cooperate for the purpose of developing, maintaining, and managing fishery resources in Blue Ridge Parkway.

#### **Memorandum of Understanding between the National Park Service and the Virginia Department of Conservation and Recreation**

This agreement supports cooperative efforts between the two agencies to maintain and protect lands necessary for the conservation of natural heritage resources that occur in Virginia in the Blue Ridge Parkway.

#### **Eastern National**

A nonprofit cooperating association chartered in 1948 to provide interpretive book sales at visitor centers and, in turn, promote educational and interpretive activities by returning profits to the National Park Service. The Blue Ridge Parkway serves as an agent of Eastern National under Public Law 79-633, authorizing cooperating associations.



## **Mountains-to-Sea Trail Memorandum of Agreement**

This is an agreement of cooperation among the parkway; the U.S. Forest Service; the North Carolina Department of Environment, Health, and Natural Resources; and the Friends of the Mountains-to-Sea Trail organization for planning and construction of the Mountains-to-Sea Trail system. Much of this trail is on parkway lands in North Carolina between the Great Smoky Mountains National Park and the Doughton Park recreation area. Trail maintenance is the responsibility of the Friends of the Mountains-to-Sea Trail volunteers.

## **Agricultural Leases**

Agriculture has had an important influence on the land and the people of the Blue Ridge Mountains. Under the parkway's Agricultural Land Use Program, lands are leased out to other landowners for agricultural use to ensure and perpetuate the cultural and traditional pastoral scenes typical of the Appalachian hill country. This blending of the parkway and the adjoining lands helps create the impression of a park that extends, in some instances, to the horizon.

## **Roanoke River Parkway**

The *Surface Transportation and Uniform Relocation Assistance Act of 1987* (Public Law 100-17) authorized the National Park Service to design and build an extension of the Blue Ridge Parkway to connect to Explore Park in the Commonwealth of Virginia. The completed Roanoke River Parkway now provides a direct link for visitors from the parkway to the 1,100-acre property now owned by Virginia Living Histories. In June 2005, the Virginia Recreational Facilities Authority—the state authority tasked with the development and operation of Explore Park—entered into a lease option agreement with Virginia Living Histories for the development of Explore Park. Explore Park was to become an outdoor living history museum and

recreational park near milepost 115 on the Blue Ridge Parkway in Roanoke. The downturn in financial markets at the end of the decade created financing challenges and construction did not begin as planned. As a result, the Virginia Recreational Facilities Authority appointed an economic development consortium to create alternative plans for Explore Park if Virginia Living Histories was not able to proceed.

## **Concurrent Legislative Jurisdiction**

- Memorandum of Agreement for Concurrent Jurisdiction at National Park Service Units in the State of North Carolina, dated July 27, 1984.
- Memorandum of Agreement and Deed for Concurrent Jurisdiction at Areas of the Blue Ridge Parkway in the State of Virginia, dated July 12, 1982.

## **SERVICEWIDE LAWS AND POLICIES**

This section identifies what must be done at the Blue Ridge Parkway to comply with federal laws and policies of the National Park Service. Many park management directives are specified in laws and policies guiding the National Park Service and are, therefore, not subject to alternative approaches. For example, there are laws and policies about managing environmental quality (such as the Clean Air Act, the Endangered Species Act, and Executive Order 11990 “Protection of Wetlands”); laws governing the preservation of cultural resources (such as the Archaeological Resources Protection Act, National Historic Preservation Act, and the Native American Graves Protection and Repatriation Act); and laws about providing public services (such as the Americans with Disabilities Act). A general management plan is not needed to decide, for instance, that it is appropriate to protect endangered species, control exotic species, protect archeological sites, conserve artifacts, or provide for universal access. Although total compliance with these laws and policies may have been

temporarily deferred in the park because of funding or staffing limitations, the National Park Service will continue to strive to implement these requirements with or without a new general management plan.

Some of these laws and executive orders are applicable solely or primarily to units of the national park system. These include the 1916 Organic Act that created the National Park Service; the General Authorities Act of 1970; the act of March 27, 1978, relating to the management of the national park system; and the National Parks Omnibus Management Act (1998). Other laws and executive orders have much broader application, such as the Endangered Species Act, the National Historic Preservation Act, and Executive Order 11990 that addresses the protection of wetlands.

The NPS Organic Act (16 USC section 1) provides the fundamental management direction for all units of the national park system:

[P]romote and regulate the use of the Federal areas known as national parks, monuments, and reservations. . . by such means and measure as conform to the fundamental purpose of said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. The National Park System General Authorities Act (16 USC section 1a-1 et seq.) affirms that while all national park system units remain “distinct in character,” they are “united through their interrelated purposes and

resources into one national park system as cumulative expressions of a single national heritage.” The act makes it clear that the NPS Organic Act and other protective mandates apply equally to all units of the system. Further, amendments state that NPS management of park units should not “derogate[e] . . . the purposes and values for which these various areas have been established.”

The National Park Service also has established policies for all units under its stewardship. These are identified and explained in NPS *Management Policies 2006* and several guidance documents referred to as “directors orders” (DOs). The “action” alternatives (alternatives B and C) considered in this document incorporate and comply with the provisions of these mandates and policies. To truly understand the implications of an alternative, it is important to consider the relationship between the servicewide mandates and policies and the management actions described in an alternative.

Table 1 lists some of the most pertinent servicewide mandates and policy topics related to planning and managing the Blue Ridge Parkway; a statement of the ideal conditions that the parkway staff is striving to achieve is presented for each. Although the table is written in the present tense, these are not necessarily the conditions that exist currently. The alternatives in this general management plan address the desired future conditions that are not mandated by law and policy and must be determined through a planning process.

**TABLE 1. SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE BLUE RIDGE PARKWAY**

Topic	Current laws and policies require the following conditions be achieved
Relations with Other Communities	
Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies	The Blue Ridge Parkway is managed as part of a greater ecological, social, economic, and cultural system. Good relations are maintained with adjacent landowners, surrounding communities, and private and public groups that affect, and are affected by, the park. The park is managed proactively to resolve external issues and concerns and ensure that park values are not compromised.

**TABLE 1. SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE BLUE RIDGE PARKWAY**

Topic	Current laws and policies require the following conditions be achieved
	Because the parkway is an integral part of the larger regional environment, the National Park Service works cooperatively with others to anticipate, avoid, and resolve potential conflicts, protect national park resources, and address mutual interests in the quality of life for community residents. Regional cooperation involves federal, state, and local agencies, Indian tribes, neighboring landowners, and all other concerned parties.
Government-to-Government Relations between American Indian Tribes and the Blue Ridge Parkway	The National Park Service and tribes culturally affiliated with the park maintain positive, productive, government-to-government relationships. Park managers and staff respect the viewpoints and needs of the tribes, continue to promptly address conflicts that occur, and consider American Indian values in park management and <b>operation</b> .
Natural Resources	
Air Quality	Air quality in the park meets national ambient air quality standards for specified pollutants. The park's air quality is maintained or enhanced with no significant deterioration. Nearly unimpaired views of the landscape both in and outside the park are present. Scenic views are substantially unimpaired.
Ecosystem Management	The park is managed holistically, as part of a greater ecological, social, economic, and cultural system.
Exotic Species	The management of populations of exotic plant and animal species, up to and including eradication, are undertaken wherever such species threaten park resources or public health and when control is prudent and feasible.
Fire Management	Park fire management programs are designed to meet resource management objectives prescribed for the various areas of the park and to ensure that the safety of firefighters and the public is not compromised.  All wildland fires are effectively managed, considering resource values to be protected and firefighter and public safety, using the full range of strategic and tactical operations as described in an approved fire management plan.
Floodplains	Natural floodplain values are preserved or restored.  Long-term and short-term environmental effects associated with the occupancy and modifications of floodplains are avoided.  When it is not practicable to locate or relocate development or inappropriate human activities to a site outside the floodplain or where the floodplain will be affected, the National Park Service: <ul style="list-style-type: none"> <li>• Prepares and approves a statement of findings in accordance with DO 77-2.</li> <li>• Uses nonstructural measures as much as practicable to reduce hazards to human life and property while minimizing impacts on the natural resources of floodplains.</li> <li>• Ensures that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR 60).</li> </ul>
General Natural Resources / Restoration	Native species populations that have been severely reduced in or extirpated from the park are restored where feasible and sustainable.  Populations of native plant and animal species function in as natural a condition as possible except where special considerations are warranted.
Land Protection	Land protection plans are prepared to determine and publicly document what lands or interests in land need to be in public ownership, and what means of protection are available to achieve the purposes for which the national park system unit was created.
Native Vegetation and Animals	The National Park Service maintains all native plants and animals in the park as parts of the natural ecosystem.
Soils	The National Park Service actively seeks to understand and preserve the soil resources of the park, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.  Natural soil resources and processes function in as natural a condition as possible, except where special considerations are allowable under policy.

**TABLE 1. SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE BLUE RIDGE PARKWAY**

Topic	Current laws and policies require the following conditions be achieved
Threatened and Endangered Species	<p>Federal and state-listed threatened and endangered species and their habitats are protected and sustained.</p> <p>Native threatened and endangered species populations that have been severely reduced in or extirpated from the park are restored where feasible and sustainable.</p>
Water Resources	<p>Surface water and groundwater are protected and water quality meets or exceeds all applicable water quality standards.</p> <p>NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.</p>
Wetlands	<p>The natural and beneficial values of wetlands are preserved and enhanced.</p> <p>The National Park Service implements a “no net loss of wetlands” policy and strives to achieve a longer-term goal of net gain of wetlands across the national park system through the restoration of previously degraded wetlands.</p> <p>The National Park Service avoids to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoids direct or indirect support of new construction in wetlands wherever there is a practicable alternative.</p> <p>The National Park Service compensates for remaining unavoidable adverse impacts on wetlands by restoring wetlands that have been previously degraded.</p>
Cultural Resources	
Archeological Resources	<p>Archeological sites are identified and inventoried and their significance is determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the North Carolina and Virginia state historic preservation offices (and American Indian tribes if applicable). Some archeological sites that can be adequately protected may be interpreted to visitors.</p>
Historic Structures	<p>Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places (national register) criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with <i>The Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation</i> (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).</p>
Ethnographic Resources	<p>Ethnographic resources are identified, significance is documented, and resources are protected in consultation with associated and affiliated groups. Appropriate cultural anthropological research is conducted in cooperation with groups associated with the park. The National Park Service accommodates access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites.</p> <p>American Indians and other individuals and groups linked by ties of kinship or culture to ethnically identifiable human remains, sacred objects, objects of cultural patrimony, and associated funerary objects are consulted when such items may be disturbed or are encountered on park lands.</p> <p>NPS general regulations on access to and use of natural and cultural resources in the park are applied in an informed and balanced manner that is consistent with park purposes and does not unreasonably interfere with American Indian or other affiliated or associated groups’ use of traditional areas or sacred resources and does not result in the degradation of national park resources.</p> <p>Access to sacred sites and park resources by American Indians and other individuals and groups continues to be provided when the use is consistent with park purposes and the protection of resources.</p> <p>All ethnographic resources determined eligible for listing or listed on the national register are protected. If disturbance of such resources is unavoidable, formal consultation with the state historic preservation officer, the Advisory Council on Historic Preservation, and American Indian tribes as appropriate, is conducted.</p> <p>The National Park Service will consult with American Indian tribes or other groups traditionally associated with park lands to develop and accomplish the programs of the park in a way that</p>

**TABLE 1. SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE BLUE RIDGE PARKWAY**

Topic	Current laws and policies require the following conditions be achieved
	<p>respects the beliefs, traditions, and other cultural values of the American Indians, individuals, or groups who have ancestral ties to the park lands. These consultations are to be open and candid so that all interested parties may evaluate for themselves the potential impact of relevant proposals.</p> <p>The identities of community consultants and information about sacred and other culturally sensitive places and practices are kept confidential when research agreements or other circumstances warrant.</p>
Cultural Landscapes	<p>Cultural landscapes inventories are conducted to identify landscapes potentially eligible for listing on the national register and to assist in future management decisions for landscapes and associated resources, both cultural and natural.</p> <p>The management of cultural landscapes focuses on preserving the landscape’s physical attributes, biotic systems, and use when that use contributes to its historical significance.</p> <p>The preservation or rehabilitation of cultural landscapes is undertaken in accordance with <i>The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i>.</p>
Museum Collections	<p>All museum collections (objects, specimens, and manuscript collections) are identified and inventoried, catalogued, documented, preserved, and protected, and provision is made for their access to and use for exhibits, research, and interpretation. The qualities that contribute to the significance of collections are protected in accordance with established standards.</p>
Visitor Use and Experience	
Visitor Use and Experience	<p>Park resources are conserved “unimpaired” for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the park. No activities occur that would cause derogation of the values and purposes for which the park has been established.</p> <p>For all zones, districts, or other logical management divisions in a park, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas.</p> <p>Park visitors have opportunities to understand and appreciate the significance of the park and its resources, and to develop a personal stewardship ethic.</p> <p>To the extent feasible, programs, services, and facilities in the park are accessible to and usable by all people, including those with disabilities.</p>
Commercial Services	<p>Same as Visitor Use and Experience and Park Use Requirements above.</p> <p>All commercial services are authorized, are necessary and/or appropriate, and are economically feasible. Appropriate planning is done to support commercial services authorization.</p>
Public Health and Safety	<p>While recognizing that there are limitations on its capability and constraints imposed by the Organic Act to not impair resources, the service and its concessioners, contractors, and cooperators are required to meet codes and regulations to provide safe and healthy environments for visitors and employees.</p> <p>The park staff strives to identify recognizable threats to safety and health and protect property by applying nationally accepted standards. Consistent with mandates, the park staff reduces or removes known hazards and/or applies appropriate mitigation, such as closures, guarding, gating, education, and other actions.</p>
Natural Soundscapes	<p>The National Park Service preserves the natural ambient soundscapes, restores degraded soundscapes to the natural ambient condition wherever possible, and protects natural soundscapes from degradation due to human-caused noise. Disruptions from recreational uses are managed to provide a high-quality visitor experience in accordance with mandates and management policies in an effort to preserve or restore the natural quiet and natural sounds.</p>
Other Topics	
Sustainable Design and Development	<p>National Park Service and concessioner visitor management facilities are harmonious with park resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy efficient, and cost effective.</p> <p>All decisions regarding park operations, facilities management, and development in the park—from the initial concept through design and construction—reflect principles of resource conservation. Thus, all park developments and park operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are located,</p>

**TABLE 1. SERVICEWIDE MANDATES AND POLICIES PERTAINING TO THE BLUE RIDGE PARKWAY**

Topic	Current laws and policies require the following conditions be achieved
	<p>built, and modified according to the Guiding Principles of Sustainable Design (NPS 1993) or other similar guidelines.</p> <p>Management decision making and activities throughout the national park system use value analysis, which is mandatory for all Department of the Interior bureaus, to help achieve this goal. Value planning, which may be used interchangeably with value analysis/value engineering/value management, is most often used when value methods are applied on general management or similar planning activities.</p>
Transportation to and in the Park	<p>Visitors have reasonable access to the park and there are connections from the park to regional transportation systems as appropriate. Transportation facilities in the park provide access for the protection, use, and enjoyment of park resources. They preserve the integrity of the surroundings, respect ecological processes, protect park resources, and provide the highest visual quality and a rewarding visitor experience.</p> <p>The National Park Service participates in all transportation planning forums that may result in links to parks or impact park resources. Working with federal, tribal, state, and local agencies on transportation issues, the National Park Service seeks reasonable access to parks, and connections to external transportation systems.</p>
Utilities and Communication Facilities	<p>Park resources or public enjoyment of the park are not denigrated by nonconforming uses. Telecommunication structures are permitted in the park to the extent that they do not jeopardize the park’s mission and resources. No new nonconforming use or rights-of-way are permitted through the park without specific statutory authority and approval by the director of the National Park Service or his representative, and are permitted only if there is no practicable alternative to such use of NPS lands.</p>

**RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS GENERAL MANAGEMENT PLAN**

The parkway is bordered by 29 counties and crosses 4 national forests—George Washington and Jefferson National Forests in Virginia and Pisgah and Nantahala national forests in North Carolina. Several North Carolina state parks are adjacent to the parkway—Mount Mitchell, Stone Mountain, and Grandfather Mountain state parks. Several more are in close proximity, including Lake James, Mount Jefferson, Elk Knob, and New River state parks. There are also several long-distance regionally and nationally designated trails—the Appalachian National Scenic Trail (Appalachian Trail), Mountains-to-Sea Trail, and the Overmountain Victory Trail all cross the parkway or are on parkway land for some distance. Each of these jurisdictions has multiple plans which may relate to the parkway. Parkway staff is currently working with those neighbors and partners to better understand the interrelationship of these planning efforts to the parkway. In addition, the parkway literally has hundreds of implementation level plans in

all divisional areas that govern day to day park management.

Given the volume of parkway implementation plans and planning undertaken by neighboring jurisdictions, this section is limited to parkway and neighboring plans that are directly adjacent to parkway land, are currently underway (or recently completed), and particularly relevant to general management plan topics.

**Trails, Recreation, and Recreation Areas**

**Roanoke Valley Trail Plan / Environmental Assessment (Virginia).**

The Roanoke Valley Trail Plan /is a partnership effort between Roanoke County, the city of Roanoke, and the Blue Ridge Parkway. The plan focuses on the lands adjacent to the parkway in the city of Roanoke and Roanoke County between mileposts 110 and 126. The plan identifies safe and appropriate access for trail connections, closure of unsafe/inappropriate trail connections, providing parking and staging for trail use on the parkway, and examines the

potential for mountain biking on existing or newly constructed trails on land leased by the federal government in the Roanoke Valley corridor. This plan provides site-specific recommendations for the development of trails along/adjoining the parkway in the Roanoke Valley.

**Asheville Corridor Plan (North Carolina).** Buncombe County, the U.S. Forest Service, the Blue Ridge Parkway, the city of Asheville and others are partnering to complete a greenway master plan for Buncombe County, North Carolina. The plan would inform management actions within the Asheville corridor of the parkway, from mileposts 375 to 395. This plan would look at safe and appropriate trail access to the parkway, identify parking for access to trails on and off the parkway, identify trails to be closed for safety and habitat concerns, and looks at recreational needs within the parkway corridor to determine if new uses/trails may be appropriate. This plan, which is currently in the beginning stages, would provide site-specific recommendations for the development of trails along/adjoining the parkway in the Asheville corridor. The final Asheville Trail Plan should be released to the public in the fall of 2012.

**Moses H. Cone Developed Area Management Plan.** The National Park Service is currently working to complete a developed area management plan for the Moses H. Cone Estate, a 3,500-acre developed area on the parkway near Blowing Rock, North Carolina. Because this property was deeded to the parkway and has a unique set of characteristics, including the historic Manor House and 25 miles of constructed carriage trails, it requires study at the site-specific level and is being considered separately from the general management plan. The plan would determine future management direction for the estate and should be released to the public in the spring of 2013.

**Blue Ridge Parkway Climbing Management Plan.** The parkway plans to undertake a future climbing management

plan. This plan would look comprehensively across the parkway at climbing use to determine where it is or is not appropriate, how access can be safely provided, how to minimize or mitigate resource damage, and what adaptive management strategies would be used to address and manage the recreational activity in the future.

**High Country Council of Governments Trail Planning.** Along the Highlands and Black Mountain segments of the parkway, the High Country Council of Governments has completed a road cycling map for Wilkes County and plans to do similar maps for the other six counties within their jurisdiction (Alleghany, Ashe, Avery, Mitchell, Watauga, and Yancey). While the Wilkes County cycling map does not include any routes that include parkway segments, the other county maps may. Watauga County also plans to emphasize the acquisition of land for development of greenways, bike trails, and other recreation opportunities, such as stream access.

The High Country Council of Governments has also completed a regional trail plan for the seven counties it serves. The plan has identified corridors through those counties as part of a regional hiking trail system.

**Stone Mountain State Park Capital Improvements.** Stone Mountain State Park (in North Carolina, adjacent to the Highlands segment of the parkway), has a number of capital improvement projects planned to improve public recreational and educational use of the park, as well as support facilities needed for park operations. These include development of group camp sites, expansion of the visitor center, trail improvements, and bridge replacements.

**Mount Mitchell State Park Recreation and Facility Improvements.** Mount Mitchell State Park (in North Carolina adjacent to the Black Mountain segment of the parkway), is proposing to upgrade existing facilities and some new recreational opportunities. These projects include general repairs and rehabilitation of park infrastructure, a possible new backcountry

campground, and consideration of new hiking and mountain biking trails.

**Mountains-to-Sea Trail Planning (Friends of the Mountains-to-Sea Trail/Carolina Mountain Club).**

Collaborative efforts are underway to develop portions of the Mountains-to-Sea Trail within and adjacent to the parkway corridor in a number of North Carolina counties.

Great Smoky Mountains National Park is developing plans to improve concession services, the Oconoluftee Visitor Center, as well as portions of the Mountains-to-Sea Trail.

**Concessions Planning**

**Blue Ridge Parkway Concessions Management Plan.** The parkway is currently working on condition assessments and financial analyses on all concessions along the parkway to begin implementing a concessions management plan. In addition, the parkway is in the midst of writing new concession contracts for bid at this time. This will be a several year process.

**Natural and Cultural Resources Planning**

**Blue Ridge Parkway National Historic Landmark Designation.** The parkway is being nominated for designation as a national historic landmark. The draft nomination is being completed by cultural resources staff in the Southeast Region office of the National Park Service. The nomination should be submitted for consideration within the next year. Designation as a national historic landmark has implications for future management of the parkway.

**Blue Ridge Parkway Vista Management Plan.** The parkway is currently preparing a vista management plan for the length of the parkway (except those areas covered under the environmental assessment for vista management with Carolina northern flying

squirrel). The plan will identify appropriate strategies for preserving, cutting, and managing vistas for the future.

**Blue Ridge Parkway Environmental Assessment for Vista Management with Carolina Northern Flying Squirrel Habitat and Northern Flying Squirrel Management Plan.**

The actions described in this environmental assessment would allow the parkway to continue to manage vistas within northern flying squirrel territory based upon specific recommendations that would protect historic vistas as well as enhance northern flying squirrel habitat, which is found above 3,500 feet. Funding was recently obtained to develop a management plan to better manage the endangered northern flying squirrel. This plan will evaluate and analyze available data and provide recommendations on the next logical steps to conserve this rare species. Completion of this plan is anticipated to occur in 2013.

**Blue Ridge Parkway Wetlands Management Plan.**

The parkway is currently working on gathering information about the current condition and threats to over 100 globally ranked wetlands/bogs/fens. The development of a wetlands management plan would help guide future management efforts and shift the parkway from its current passive management to a more proactive mode. Completion of the plan is anticipated for spring of 2013.

**U.S. Forest Service Planning**

**George Washington and Jefferson National Forests Forest Plans, Virginia.**

Similar to general management plans, the U.S. Forest Service completes forest plans for all of its units under the National Forest Management Act of 1976. There are four national forests adjacent to the parkway – the George Washington and Jefferson National Forests in Virginia and the Pisgah and Nantahala national forests in North Carolina. The U.S. Forest Service is in the midst of preparing a draft forest plan for the George



Washington National Forest; it was last updated in 1993. The Jefferson National Forest Forest Plan was updated in 2004.

**Pisgah and Nantahala National Forests Forest Plan, North Carolina.** The Pisgah and Nantahala National Forests Forest Plan was updated in 1997 and is scheduled to be updated again within the next several years. The parkway works in close partnership with the U.S. Forest Service and will engage in that planning process.

### **Transportation Planning**

**Virginia and North Carolina Departments of Transportation Road Construction, Improvements, Transportation Improvement Plans, and Other Plans.** Both the North Carolina and Virginia departments of transportation have numerous road improvement projects on their transportation improvement plans along the Blue Ridge Parkway and on adjacent roads. These projects range from new residential road construction to bridge and tunnel repairs to resurfacing and reconstructing guardrails and shoulders. These projects are outlined in the “Cumulative Impacts” section of the general management plan.

### **PLANNING ISSUES AND CONCERNS**

During the scoping period (early information gathering) for this general management plan, issues and concerns were identified by the general public; NPS staff; county, state, and other federal agency representatives; parkway partners; resource experts; and representatives from various organizations. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings, workshops, and open houses; through planning newsletters; and on the parkway’s website (see “Chapter 5: Consultation and Coordination”).

Comments received during the scoping process demonstrated that there is much that the public values about the parkway, especially its protection of scenery and high-elevation habitats; interpretation of local history and heritage; access to trails; the opportunity it offers to escape from commercialism and traffic; and the beauty of the road and parkway architecture. Issues and concerns expressed during scoping generally focused on balancing appropriate visitor use, types and levels of facilities, services, and activities with desired resource conditions. The general management plan alternatives provide strategies for addressing the issues in the context of the parkway’s purpose, significance, and special mandates.

The following issues and concerns were identified during scoping for the general management plan.

### **Increasing Residential and Commercial Development Visible From the Parkway**

The parkway was designed as a park without visual boundaries, in response to the congressional intent to provide a scenic and recreational driving experience from which visitors could view the landscapes of the central and southern Appalachian Mountains. This primary purpose for the parkway is being threatened by the subdivision of hundreds of privately owned acres of scenic farms and mountainsides for residential development. This land use trend is dramatically increasing in 14 of the 29 counties through which the parkway passes. By far the most commonly expressed concerns in public comments relate to this issue. People are concerned with the loss of scenic quality and scenic variety. Some believe that solutions lie with additional vegetation buffers. Others advocate a stronger land protection program on the part of the park, ranging from cooperative agreements to purchase of scenic easements to full purchase of lands.

## **Relationships between the Parkway and Surrounding Communities**

The parkway plays an important role in the broader region in which it is located. It connects communities and heritage tourism opportunities, contributes to economies, provides recreational escape, protects and links natural corridors, and provides a 469-mile window to the beauty of the region. Many of those who provided comments encouraged increased communication and cooperation between the parkway and surrounding jurisdictions, emphasizing the potential for better land use planning, scenery protection, greenway connections, and visitor information that could result.

## **The Design and Character of the Parkway**

The parkway was carefully designed to create a special experience for visitors, from how the parkway road was situated on the landscape, to the details of parkway architecture, to the carefully placed vistas and overlooks, to the strategic location of recreation areas and visitor services. Some people are concerned that budget limitations and changing public expectations and demands are compromising the original design standards of the parkway. Others believe that elements of parkway character, such as the absence of roadway striping and width, cause safety hazards. Some people would like to see development of additional pullouts and overlooks; others believe that too many overlooks have low quality views due to vegetation growth or adjacent development. Some others also feel that certain overlooks have safety issues that make them higher crime areas and that these facilities should be evaluated for possible closure or redesign.

## **Regional Road System Improvements**

The Blue Ridge Parkway was authorized by Congress to be a national rural parkway with limited at-grade road crossings and with entrance and exit points to be spaced at

intervals to reduce interruptions to the main flow of visitor traffic. There are 199 public secondary at-grade and 30 primary grade separated access points to the parkway from the regional primary and secondary road systems in Virginia and North Carolina. Many of these are scheduled to be upgraded over the next several years. The improvement of both primary and secondary roads in rural areas is making these areas more attractive for residential and commercial development; thus, road projects have considerable influence on the parkway's scenery by facilitating land use changes that are visually incompatible with parkway values. Also, the level of local traffic is increasing in several areas along the parkway. With the large number of at-grade road crossings, the potential for traffic accidents is rising from increasing cross-parkway traffic.

## **Motorized Use of the Parkway**

Motorized use of the parkway involves a mix of visitors and local commuters, and different types of vehicles, which can result in conflict and concerns. Commenters noted that motorcycle noise, and in some cases excessive speed by motorcycle riders, is disturbing to them. Some people are concerned about the increasing size and number of recreational vehicles (RVs) on the parkway and believe some limits to address these concerns may be needed. Many mentioned that the parkway has too much commuter traffic that interferes with the slower pace and low traffic levels that are valued as part of a recreational experience.

## **Bicycling on the Parkway**

Bicycling is permitted along the entire length of the parkway. Although cyclists represent only 1% of the road's traffic mix, the parkway is popular with cyclists due to its limited access and relatively lower traffic levels and vehicle speeds when compared to most community streets and highways. The parkway, however, was not designed as a bicycle facility. It has no specific paved shoulders or bike lanes or paths; cyclists

currently ride in the road's travel lanes. During the scoping process, bicycling along the parkway was an issue of much discussion and a variety of views. Some people advocate bike lanes along the full length of the parkway, while others believe this is not feasible and would inappropriately change the parkway road character. Other commenters advocate bike routes parallel to the road, either along the full distance or only in high-use areas. Other commenters proposed banning bicycle use on the parkway altogether. As a related issue, mountain biking on trails is supported by some people and opposed by others.

### **Additional Recreational Opportunities**

As population has increased adjacent to the parkway and as visitor's interests have shifted, there is more demand for additional or different day use recreational opportunities along the parkway. For example, there is increasing demand for more off-season use and access, including keeping more of the parkway open in the off-season. Unlike most National Park units, parkway visitor services are only provided during a six-month season. Visitors traveling the parkway during the off-season do not have access to even basic amenities, such as restrooms. A lack of orientation and interpretive services during this time also limits visitors from understanding parkway resources and the range of recreational opportunities available to them. The public also advocated for additional rock climbing and horse riding opportunities. Some people would like to see more trails in the parkway and some are particularly interested in more links to trails and greenway systems with neighboring communities. To address these issues, the plan will explore different options for expanding recreational opportunities along the parkway.

### **Visitor Service Facilities**

The parkway's visitor service facilities were originally placed along the parkway to provide a leisurely, self-contained, long-distance

driving experience, where visitors could drive a while, stop a while to stretch their legs, obtain information, picnic, and stop overnight for camping or lodging. For a variety of reasons that include increased availability of services adjacent to the parkway and changing visitor use patterns and preferences, the parkway has concession services that struggle to remain economically viable and campgrounds that generally are underused. Some visitors have commented that the parkway should provide lodging with more modern amenities; others think concessions services are an outdated concept and compete with neighboring businesses.

Many visitors have noted they would stay on the parkway if the campgrounds provided more updated services, such as showers, electrical hookups, and better accommodation of large RVs. Others feel that such changes are not necessary and would alter the rustic character of the campgrounds. The campgrounds have not had significant upgrades since their construction between the 1930s and 1950s. None have water/electric hook-ups at RV sites or showers in the comfort stations. Furthermore, loop roads, parking areas, and campsites were designed to earlier standards that do not adequately accommodate modern RVs. The absence of these amenities is the primary reason most visitors do not stay at the parkway's campgrounds.

In addition, there is limited access to visitor service facilities in the off-season when the road is open but most of the visitor facilities are closed. Also, there are several key places where large numbers of visitors access the parkway in the peak season but don't have access to information and services for orientation. As a result, there is a high frequency of visitors becoming disoriented and lost. Some people oppose the development of any new facilities along the parkway, while others advocate some additional overlooks, trails, and support facilities so long as they harmonize with the parkway design. The plan will explore options for improving visitor service facilities in

context with the parkway's purpose, significance, and special mandates.

### **Protection of Natural Resources**

Under the provisions of the parkway's establishing legislation, the parkway is responsible for conserving, interpreting, and exhibiting the unique natural and cultural resources of the central and southern Appalachian Mountains. Parkway lands contain 1,250 different vascular plant species, 5 listed rare and endangered plant species, 7 rare and endangered animal species, several areas that are classified as "globally imperiled" natural systems, 21 natural heritage areas, and 110 miles of streams. There were many comments about air pollution effects on views and ecosystem health; the frequency and amount of plant and animal poaching; the invasion of nonnative plants, insects, and diseases; visitor trampling, social trailing, and illegal camping; and suppression of wildfires and other damage to natural systems due to park practices and development, such as habitat fragmentation from trails and roads.

### **Protection of Cultural Resources**

The parkway contains, and is challenged to manage, a diverse range of cultural resources, including 90 buildings, 2 sites, and 133 other structures that contribute to the parkway's eligibility for inclusion on the national register. The parkway also contains historic structures and places associated with events and activities prior to the parkway's construction. The traditional pastoral landscapes and structures of Appalachian farms and settlements contribute to the richness of scenery and stories of lifeways. Many commented about concerns over the deterioration of historic structures and other features. Some commenters thought that resource threats are increasing and suggested that park managers place more emphasis on resource protection in making management decisions.

### **Climate Change**

Climate change refers to any significant changes in average climatic conditions (such as average temperature, precipitation, or wind) or climatic variability (such as seasonality or storm frequencies) lasting for an extended period of time (decades or longer). Recent reports by the U.S. Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change (IPCC 2007a) provide clear evidence that climate change is occurring and is anticipated to accelerate in the coming decades.

The National Park Service recognizes that the major drivers of climate change are outside the control of the agency. However, impacts from climate change are already occurring or are expected to occur throughout the national park system. Therefore, an important goal of this planning effort is to gain a better understanding of the influences of climate change on the Blue Ridge Parkway and develop effective strategies to manage for them. Because climate change is a long-term issue that may affect the parkway beyond the scope of this general management plan, this planning effort is intended to lay the initial groundwork to address climate change issues. In developing this planning document, three key questions were asked and are as follows:

1. What would be the contribution of the alternatives to climate change, as indicated by the amount of greenhouse gases that would be emitted under each alternative (i.e., the parkway's carbon footprint)?
2. What management strategies could the park adopt to reduce greenhouse gas emissions and the impacts of climate change on climate-sensitive resources?
3. What are the potential impacts of climate change on the park addition lands' resources?

Regarding the first question, it has been determined that the management alternatives

described in this document would contribute slightly more greenhouse gases compared to the parkway's baseline emissions, primarily as a result of small increases in vehicular traffic from visitors and commuters. Because of the minor amount of increase, this impact topic has been dismissed from detailed analysis. For more information, see the section titled, "Carbon Footprint" under the "Impact topics Considered but Eliminated from Detailed Analysis" section of chapter 3.

Regarding the second question, this document provides scientific-based management strategies to help guide parkway managers in addressing future climate change impacts on parkway resources and to reduce greenhouse gas emissions. These strategies are described in chapter 2 and would be adopted by the parkway as part of the preferred alternative when that is identified.

Regarding the third question, climate change has the potential to alter resource conditions in many different ways in the parkway, but the exact type and intensity of these changes is still uncertain. These potential effects are described in chapter 3.

## **DECISION POINTS ARISING FROM ISSUES**

Many aspects of the desired future conditions of the parkway are defined in its establishing legislation, the parkway's purpose and significance statements, and established laws and policies. The resolution of questions or issues that have not already been addressed by legislation or laws and policies are the basis for developing different alternatives or approaches to managing the parkway into the future, because usually there is more than one way an issue could be resolved. As with any decision-making process, there are key decisions that, once made, would dictate the direction of subsequent management strategies. Based on the scoping input and the major issues previously identified, the following six major decision points were identified for the Blue Ridge Parkway. Much of this general management plan focuses on

alternative ways of addressing these decision points.

1. To what extent should the original design of the parkway be preserved or under what circumstances might some design elements be modified for purposes of visitor convenience and safety, management of special resources, or fiscal or operational efficiency?
2. Are current visitation patterns and activities appropriate and sustainable or are changes needed to protect special and/or fragile resources or the range of visitor opportunities?
3. Is the present range and mix of car/RV/bicycle/motorcycle/pedestrian use of the parkway road appropriate and sustainable or are changes needed for visitor experience and safety or for resource protection?
4. What are the desired conditions for park natural and cultural resources and what management strategies need to be implemented to ensure long-term sustainability of those conditions?
5. Can the park protect scenic views, cultural resources, and natural habitats important to the park via partnerships and agreements with park neighbors or to what extent are other approaches needed?
6. What criteria should the National Park Service use to determine whether or not and how secondary local or regional roads should be allowed to intersect or cross the parkway?

## **ISSUES AND CONCERNS NOT ADDRESSED IN THE GENERAL MANAGEMENT PLAN**

Not all of the issues or concerns raised by the public are included in this general management plan. Some issues raised by the public were not considered because they are already prescribed by law, regulation, or

policy (see the previous “Servicewide Mandates and Policies” section). Issues were also excluded from consideration in this general management plan if they

- would be in violation of laws, regulations, or policies
- were outside the scope of a general management plan or
- were at a level that was too detailed for a general management plan and would be more appropriately addressed in subsequent planning documents

This section briefly summarizes some of these issues and the basis for excluding them from this general management plan.

### **Issues to be Addressed by Law, Regulation, and Policy**

**Universal Accessibility.** Concerns were expressed about old, outdated facilities along the parkway and inadequate accessibility by visitors with disabilities. The National Park Service is required by law and policy to provide accessible facilities and the parkway is gradually updating these facilities as funds become available.

**Illegal Taking of Park Resources.** The illegal taking, also referred to as poaching, of park resources, especially plants, is an ongoing problem that consumes considerable staff time and effort to enforce current laws and investigate incidents. In addition to impacting staff resources, poaching affects the viability of a variety of species, including some which are listed as rare or endangered. Some park resources may be traditional subsistence resources, such as ramps and sang, for associated and affiliated groups.

**Management of Exotic Species.** A variety of species of plants and animals, including insect pests and diseases, are not native to the park and affect the health and viability of park ecosystems and adjacent lands and resources. Current laws and policies require the park to monitor and manage for these species.

### **Issues for Implementation or Other Planning Projects**

**Horse and Bike Use at Moses H. Cone Park.** Moses H. Cone Memorial Park in North Carolina is a 3,500-acre site along the parkway near the Boone/Blowing Rock communities. This park area receives considerable recreational use and has some specific management issues relating to trail use for bicycling and horseback riding. A separate developed area management plan for the site is being prepared in a parallel process to this general management plan; therefore, alternatives for management at Moses H. Cone Park will not be addressed in the general management plan.

### **Improved Types of Visitor Information.**

There were a variety of specific requests and concerns about visitor information services. This included a reliable central information phone line; better signs and exhibits to make up for the shortage of staff; lack of advertising of local activities and services outside the parkway; too many book sale outlets instead of interpretive exhibits in visitor facilities; and visitors not receiving enough information about natural resource issues.

Particulars about the provision of specific information and interpretive messages are at a level of detail that lies outside the scope of a general management plan. The broad guidance of a plan would help inform subsequent levels of visitor information and interpretive planning.

### **Issues Outside the Scope of a General Management Plan**

A number of concerns were raised that are not in the purview of a general management plan to address.

### **Interstate 73 Crossing of the Parkway.**

Many public comments were received expressing concerns about the new interstate crossing of the parkway and how that might affect park values. The Virginia Department of Transportation planned the routing for

Interstate (I)-73 across the Blue Ridge Parkway. The National Park Service was consulted in that planning process and NPS comments were considered and incorporated in the plan. The crossing of I-73 is a decision that has been made and cannot be reconsidered as part of the parkway’s general management plan.

**The Park Has Inadequate Funding, Staffing, and Political Support.** This type of concern was expressed frequently. A management plan can assist with identifying priorities and strategies for management, but the ultimate funding of the park is determined by the U.S. Congress.

**IMPACT TOPICS**

An important part of planning is seeking to understand the consequences of making one decision over another. To this end, NPS general management plans are accompanied by environmental impact statements, which

identify the anticipated impacts of possible actions on resources and on park visitors and neighbors. Impacts are organized by topic, such as “impacts on the visitor experience” or “impacts on vegetation and wildlife.” Impact topics serve to focus the environmental analysis and to ensure the relevance of the impact evaluation.

The impact topics identified for this general management plan are described in “Chapter 3: Affected Environment.” These topics were selected on the basis of federal law, regulations, executive orders, NPS expertise, and concerns expressed by other agencies or members of the public during project scoping. These descriptions of the parkway environment establish the basis for the impact analysis in “Chapter 4: Environmental Consequences.” Table 2 provides a summary of the impact topics analyzed in detail or dismissed from detailed analysis.

**TABLE 2. IMPACT TOPICS**

Impact topics Analyzed in this Plan	Impact topics Eliminated from Detailed Analysis in this Plan
Alternatives in this plan have potential to affect these resources or topics.	These resources or topics are important, but alternatives in this plan would have only positive impacts on them, and/or any adverse impacts would be negligible to minor.
Natural Resources	Wild and Scenic Rivers
Vegetation and Wildlife	Prime and Unique Farmlands
Federal and State Listed Species	Natural or Depletable Resource Requirements and Conservation Potential
Geologic Resources and Soils	Energy Requirements and Conservation Potential
Water-related Resources	Carbon Footprint
Air Quality	Environmental Justice
Cultural Resources	Indian Trust Resources
Historic Structures	Museum collections
Cultural Landscapes	Road Conditions
Archeological Resources	
Ethnographic Resources	
Visual Resources	
Visitor Use and Experience (including soundscapes)	
Traffic and Transportation	
Parkway Operations	
Regional Socioeconomics	

## IMPACT TOPICS CONSIDERED BUT DISMISSED FROM DETAILED ANALYSIS

Some impact topics that commonly are considered during the planning process were not relevant to the development of this general management plan because either the management alternatives would have no effect, a negligible effect, or a minor effect on the resource, or because the resource does not occur within the boundaries of the Blue Ridge Parkway. The following explains why these impact topics were dismissed from detailed analysis.

### Wild and Scenic Rivers

Wilson Creek is the only designated National Wild and Scenic River that traverses the Blue Ridge Parkway. This 0.6-mile river segment is near Grandfather Mountain between mileposts 303 and 304. This upper headwater segment is classified as “Scenic.” It passes through a relatively undisturbed portion of the parkway with many large boulders, steep drops, and other distinct scenic features that are set within a mixed conifer and hardwood forest. The outstandingly remarkable values identified for Wilson Creek are the following: scenic, recreational, geologic, fish and wildlife, botanical, and historic and cultural values.

The U.S. Forest Service administers the Wilson Creek Wild and Scenic River under the *Wilson Creek Comprehensive River Management Plan* (USDA 2005). For the 0.6 mile area of national park system lands within the river corridor, this general management plan includes management direction complimentary to the river management plan.

Under all alternatives, Wilson Creek would continue to receive full protection to ensure that no management actions are taken that would adversely affect the values that qualify it for inclusion in the National Wild and Scenic Rivers System. Under alternatives B and C, this portion of the parkway would be zoned Special Natural Resources, which affords the greatest level of protection of all

proposed management zones. The management prescriptions that have been developed for the proposed special natural resources zone are compatible with the management goals stated in the *Wilson Creek Comprehensive River Management Plan*. Under this plan, management of the scenic segment of the river corridor is focused on maintaining and enhancing the near-natural environment. It states that the riverbanks should remain largely undeveloped and primitive, but may be accessible in places by roads. The plan further states that recreation management should be designed to provide a natural-appearing setting with limited improvements. To the greatest extent practicable, any new roads on parkway lands should not be routed through riparian areas of creek or river segments that are designated under the Wild and Scenic Rivers Act.

The National Park Service is also responsible for maintaining a Nationwide Rivers Inventory, which is a register of river segments that potentially qualify as national wild, scenic, or recreational river areas. The Blue Ridge Parkway includes portions of two rivers on the National Rivers Inventory: Linville and James rivers. Management zoning prescribes desired future natural and cultural resource conditions, visitor experiences, and appropriate activities and developments within these river corridors. By applying management zoning, the action alternatives B and C would allow the qualities that make these river segments eligible for inclusion in the National Wild and Scenic Rivers System to be enhanced.

For all alternatives, the effect on designated or potential outstandingly remarkable values for Wilson Creek, Linville River, and James River would be at the lowest levels of detection; barely measurable with no perceptible adverse consequences; or the effects would be beneficial. Because of this, all alternatives would have only beneficial impacts or any adverse impacts would be considered negligible. Therefore, this impact topic has been dismissed from further detailed analysis.



## **Prime and Unique Farmlands**

In 1980, the Council on Environmental Quality directed federal agencies to assess the effects of their actions on farmland classified by the Natural Resources Conservation Service as prime or unique. Prime farmlands are defined as lands that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and are also available for these uses. Prime farmlands have the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. Unique farmlands are lands other than prime farmland that are used for the production of specific high value food and fiber crops.

The parkway includes prime farmlands, a majority of which are being used for agricultural purposes to maintain the landscape's scenic pastoral character. These farmlands are being managed under 446 active agricultural lease permits that encompass approximately 3,500 acres parkway-wide. None of the management alternatives proposed in this general management plan would remove any of these farmlands from agricultural production or substantially modify existing agricultural uses of these lands. Because the alternatives would have no effect or a negligible effect on these farmlands, this impact topic has been dismissed from further consideration.

## **Natural or Depletable Resource Requirements and Conservation Potential**

None of the alternatives being considered in this plan would result in the extraction of natural or depletable resources from the

parkway. In all of the alternatives, ecological principles would be applied to ensure that the parkway's resources were maintained and protected. Agricultural leases described previously under the "Prime and Unique Farmlands" section above would continue to include annual harvesting of hay, mowing, and grazing to maintain the cultural landscapes of the parkway. These areas would continue to be managed sustainably to ensure the long-term viability of these resources and would result in only negligible impacts on this topic. Therefore, this impact topic has been dismissed from further consideration.

## **Energy Requirements and Conservation Potential**

None of the management alternatives would result in a major change in energy consumption, energy availability, or costs compared to current conditions. The National Park Service would pursue sustainable practices whenever possible in all decisions regarding operations, facilities management, and development of the parkway. Whenever possible, the parkway would use energy conservation technologies and renewable energy sources. Overall, the impact on energy requirements and conservation potential would be negligible; therefore, this topic has been dismissed from further consideration.

## **Carbon Footprint**

For the purpose of this planning effort, "carbon footprint" is defined as the sum of all emissions of carbon dioxide and other greenhouse gases (e.g., methane and ozone) that would result from implementation of the management alternatives. Understanding the carbon footprint of each alternative is important to determine their contribution to climate change. However, a quantitative measurement of each alternative's carbon footprint was determined by the planning team not to be practicable. Instead, a qualitative analysis was used to determine each action alternative's carbon footprint relative to the no-action alternative.

It has been determined that the two action alternatives would only emit slightly more greenhouse gases compared to the parkway's baseline emissions. This is primarily the result of small increases (less than 3%) in vehicular traffic from visitors and commuters—likely the result of increased amenities and recreation opportunities proposed in the action alternatives. However, current visitation is about 20% below peak levels recorded in 2002 (see the “Visitor Experience” section of chapter 3). Neither of the action alternatives is expected to boost visitation to those peak levels. Because of this slight increase in greenhouse gases that may contribute to climate change, this impact topic has been dismissed from detailed analysis.

### **Environmental Justice**

Presidential Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

According to the Environmental Protection Agency, environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

All 29 counties in Virginia and North Carolina that the parkway passes through contain both minority and low-income populations; however, environmental justice has been

dismissed as an impact topic for the following reasons:

- The parkway staff and planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- The management alternatives would not result in any disproportionate human health or environmental effects on minorities or low-income populations and communities.
- The management alternatives would not result in any effects that would be specific to any minority or low-income population or community.

### **Indian Trust Resources**

Secretarial Order 3175 issued by Secretary of the Interior Bruce Babbitt, November 8, 1993, requires that impacts on Indian trust resources from a proposed project or action by United States Department of the Interior agencies be addressed in environmental documents. This order was reinforced by President William Clinton's April 29, 1994, memorandum to the heads of executive departments and agencies directing that tribal trust resources be considered during the development of federal plans, projects, programs, and activities.

The federal Indian trust responsibility is the fiduciary duty of the federal government emanating from treaties and statutes to protect Indian lands, resources, assets, and rights and to carry out the mandates of federal law concerning American Indian and Alaska Native tribes.

Indian trust resources is not analyzed as an impact topic in this document because the resources of the Blue Ridge Parkway are preserved and managed for the benefit of all Americans, as are other units of the national park system. This management mandate stems from the Organic Act of August 25, 1916,

establishing the National Park Service; and from President Franklin Delano Roosevelt's signing of a series of laws leading to the establishment of the Blue Ridge Parkway beginning in 1933 through 1940 (48 Stat. 195, Public Law 73-67, 49 Stat. 2041, Public Law 74-848, and 54 Stat. 249, Public Law 76-566). The planning team has concluded that there are no Indian trust resources on the parkway. Therefore, the subject is not included as an impact topic for further analysis.

### **Museum Collections**

The parkway's archival collection of more than 700 linear feet contains materials relating to the following: Parkway Development, Design, and Engineering (1934 to present); the Moses H. Cone Papers; a 10,000+ historic photograph collection (1934 to present); and videotapes and movie film, memorabilia, and oral history tapes and transcripts from individuals who played a significant role in the development of the Blue Ridge Parkway.

The parkway's cultural collections include architectural material from the Peaks of Otter area, Saunders Farm, Mabry Mill, and the Moses H. Cone Estate; parkway signs; original surveying equipment used by NPS staff; and Works Progress Administration and Civilian Conservation Corps tools and equipment used for parkway landscaping and construction. Natural history collections include a herbarium collection that houses plant specimens from within the parkway boundaries in Virginia and North Carolina; a minerals collection; and mammals, fish, and reptile specimens.

The parkway museum collection is stored in a rehabilitated warehouse. The storage facility has specific temperature and humidity controls, fire detection and fire sprinklers, and an alarm system. The storage area was designed by curation specialists at the NPS Southeast Region office in Atlanta and meets museum standards set by the Secretary of the Interior. The archeological artifacts are primarily stored at the NPS Southeast Archeological Center in Tallahassee, Florida.

The parkway's museum collections contain over 690,000 artifacts and specimens. Of these, more than 10,500 are archeological specimens, most of which are housed at the NPS Southeast Archeological Center in Tallahassee, Florida. The center's conditions meet museum standards. The remaining parkway collections include 700,000 archival collections, 1,050 cultural collections, 60 works of art, 32,000 biological and botanic specimens; no fossils or paleontological specimens, and 2,400 geological specimens.

The implementation of any of the action alternatives would not result in changes to management of the museum collection or in substantial additions to the museum collections, which would continue to be stored and managed as they are currently. The management of collections is currently directed by existing law and NPS policy. Recent archeological work on the parkway has focused on managing and documenting archeological resources without creating more collections through the use of nondestructive methods of information gathering, for example those related to survey without excavation. In addition, museum collections would continue to be acquired, accessioned and cataloged, preserved, protected, and made available for access and use according to NPS standards and guidelines. Therefore, the topic of museum collections and archives is dismissed from further consideration because none of the alternative actions would affect museum collections.

### **Road Conditions**

Road conditions refer to the infrastructure along the parkway, such as tunnels, bridges, and pavement conditions. When an extensive road conditions inventory was completed in 2004, the pavement along the parkway was generally considered to be in good condition. Most of the pavement at overlooks was in fair condition, and only 1% was in poor condition. Most of the access ramp pavement was also in fair condition. Some detrimental natural-hazard related damage has occurred, but maintenance improvement projects have been

implemented on the parkway that have addressed and mitigated this damage. None of the management alternatives proposed in this general management plan would substantially modify ongoing maintenance of the parkway road conditions. Maintenance would continue under all of the alternatives. Repairs due to natural hazards, such as rockslides, would continue to be

completed to ensure the road remains open as much as possible. Because the alternatives would have no effect or a negligible effect on the maintenance and repair of the road, the road conditions impact topic has been dismissed from further consideration.

# THE ALTERNATIVES 2



Mountain Laurel



Split-rail Fence



## INTRODUCTION

The purpose of developing alternatives is to provide a clear basis for choice among a diverse set of options for the future management of the parkway.

Many aspects of the desired future condition of the parkway are defined in the establishing legislation, the parkway's purpose and significance statements and the servicewide mandates and policies described earlier. Within these parameters, the National Park Service solicited input from the public, NPS staff, government agencies, tribal officials, and other organizations regarding issues and desired conditions for the parkway. The planning team also gathered information about existing visitor use and conditions of the parkway's facilities and resources. The team then considered which areas of the parkway attract visitors and the locations of highly sensitive resources. Using this information, the planning team developed eight management zones and three sets of alternative future management strategies to reflect the range of ideas proposed by parkway staff and the public.

This chapter describes the alternatives for managing the Blue Ridge Parkway for the next 20+ years. The chapter includes tables summarizing the key differences in management strategies among the alternatives, management zones, and expected impacts from implementing the alternatives. Table 20 at the end of this chapter presents the summary of impacts anticipated from each of the alternatives, based on the analysis in "Chapter 4: Environmental Consequences." This chapter also describes mitigation measures that would lessen or avoid impacts; defines a strategy to address user capacity; outlines future studies and implementation plans needed; and identifies the environmentally preferable alternative.

### RELATIONSHIP OF MANAGEMENT ZONES AND ALTERNATIVES

The primary building blocks for reaching an approved management plan for a national park system unit are the management zones and the alternatives. All are developed within the scope of the park's purpose, significance, mandates, and legislation.

Management zones prescribe a range of desired resource conditions and visitor experiences for the park and include statements about the appropriate kinds and levels of management, use, and development in each zone. The management zones provide primary guidance for subsequent decision making in the park and are the core of the general management plan. Eight management zones have been defined for the Blue Ridge Parkway (see table 3). These are graphically shown on the maps for alternatives B and C to reflect the management concept proposed for each alternative.

Each of the alternatives in this general management plan presents an overall management concept and proposals about how different parkway programs and areas could be managed through the application of the management zones and other strategies. The concept for each alternative gives planners and park staff the idea for what the alternative would look like. For example, perhaps one management zone is called natural and another zone is called recreation. An alternative whose concept is to keep most of a park area in an undeveloped condition would have more of the natural zone applied than the recreation zone. Both zones might also be larger or smaller or in different locations, depending on the overall concept for each alternative.

This *Final Blue Ridge Parkway General Management Plan / Environmental Impact Statement* presents three alternatives for the future management of the parkway.

Alternative A is the no-action alternative and proposes a continuation of current management direction; the development and discussion of a no-action alternative is required by law. The current management direction for the parkway is not based on management zones. Thus, it serves most importantly as a baseline for comparing the action alternatives, alternative B and alternative C. The action alternatives generally present alternative approaches to the park's current management direction, including different ways to manage natural and cultural resources, visitor use, operations, and facilities and other infrastructure of the parkway. Many aspects of current management may have merit; in those cases, the action alternatives may embrace or build on that current direction.

The three alternatives embody the range of what the public and the National Park Service desire to see accomplished with regard to natural and cultural resource conditions, scenery conservation, land protection, visitor opportunities and experience, traffic and transportation, concessions, and other services.

As noted in the "Guidance for Planning" section of chapter 1, all of the alternatives considered in this general management plan would allow the National Park Service to continue to follow existing agreements and servicewide mandates, laws, and policies. These mandates and policies are not repeated in this chapter.

## **FORMULATION OF THE ALTERNATIVES**

The alternatives focus on what resource conditions, visitor uses, experiences, and opportunities should be provided at the parkway rather than on details of how these conditions and uses/experiences should be achieved. Thus, the alternatives do not include many details on the implementation of

resource and visitor use management objectives. More detailed implementation plans would be developed following approval of the general management plan.

Alternative visions for managing the parkway were developed by identifying different ways to address the planning issues identified in chapter 1, in context with the parkway's purpose and significance. In developing this range of alternatives, the National Park Service adhered to the requirements of the National Environmental Policy Act, while giving careful consideration to the parkway's enabling legislation. Oftentimes, this required balancing natural and cultural resource protection with visitor services, facilities, and recreational opportunities. The following major decision points were used to help develop these alternative concepts:

1. To what extent should the original design of the parkway be preserved, or under what circumstances might some design elements be modified for the purposes of visitor convenience and safety, management of special resources, or fiscal or operational efficiency?
2. Are current visitation patterns and activities appropriate and sustainable, or are changes needed to protect special and/or fragile resources or enhance or modify the range of visitor opportunities?
3. Is the current range and mix of car/RV/bicycle/motorcycle/pedestrian use of the parkway road appropriate and sustainable, or are changes needed for visitor experience and safety or for resource protection?
4. What are the desired conditions for the parkway's natural and cultural resources, and what management strategies need to be implemented to ensure long-term sustainability of those conditions?
5. Can the parkway staff protect important scenic views, cultural resources, and natural habitats via partnerships and agreements with



parkway neighbors, or to what extent are other approaches necessary and practical?

6. How should the National Park Service determine whether or not and how secondary local or regional roads should be allowed to intersect or cross the parkway?

A preliminary version of the alternatives was presented to the public in *Newsletter 5: Preliminary Alternatives (Spring 2008)* and revised in response to public comments.

More detailed plans or studies would be required before most conditions proposed in the alternatives are achieved. The implementation of any alternative also depends on future funding and environmental compliance. This plan does not guarantee that sufficient money for implementation will be forthcoming. The plan establishes a vision of the future that would guide day-to-day and year-to-year management of the parkway, but full implementation could take many years.

## **IDENTIFICATION OF THE NPS PREFERRED ALTERNATIVE**

Identification of the National Park Service's preferred alternative involved evaluating the alternatives using an objective analysis process called "Choosing by Advantages." This process included a three-day workshop in which 24 staff members representing all divisions of the Blue Ridge Parkway worked together to develop the preferred alternative. Through this process, the planning team identified and compared the relative advantages of each alternative according to a set of factors. These factors were selected based on the benefits or advantages of each alternative to fulfill the purpose of the plan, while addressing the planning issues identified in chapter 1. These factors include the following:

**Factor 1**—Maintains or enhances natural conditions and processes

**Factor 2**—Preserves cultural resources

**Factor 3**—Provides for an appropriate range of visitor services and recreational opportunities

**Factor 4**—Provides a traditional parkway/scenic driving experience

**Factor 5**—Improves operational effectiveness and sustainability

**Factor 6**—Provides other advantages to Blue Ridge Parkway, regional communities, partners, and/or stakeholders

Decisions made during the Choosing by Advantages process were based on the importance of advantages between the alternatives. This involved the identification of the attributes or characteristics of each alternative relative to the factors, a determination of the advantages for each alternative for each factor, and then weighing the importance of each advantage. The relationship between the advantages and costs of each alternative was also established. This information was used to identify the alternative that provides the National Park Service and the public the greatest advantage for the most reasonable cost.

The results of the Choosing by Advantages process identified alternative B as the agency's preferred alternative. This alternative provides the best combination of strategies to protect the park's unique natural and cultural resources and visitor experience, while improving the park's operational effectiveness and sustainability. It also provides other advantages to the parkway, regional communities, partners, and stakeholders. Ultimately, alternative B's significant advantage to cultural resources was one of the largest determining factors in identifying it as the agency's preferred management alternative.

After alternative B was determined to provide the greatest overall advantage, the planning team considered if management strategies and zoning allocations found in alternative C could be incorporated into alternative B to provide even greater advantage. As a result of this refinement process, alternative B now

includes the following primary management strategies and zone allocations that were originally part of alternative C:

- Use a regional ecosystemwide approach to resource management to promote regional natural resource connectivity.
  - Actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals.
  - Improve RV access to portions of campgrounds at Peaks of Otter and Julian Price. These campgrounds were selected because they have potential to accommodate improved RV access without jeopardizing their historic character as national register-eligible cultural landscapes.
  - Convert the Roanoke Mountain campground to a day use recreation area, including picnic and trail staging facilities to better meet the needs of visitors.
  - Rezone a portion of the Smart View recreation area as natural to provide greater advantage for natural resources while still allowing for traditional recreation opportunities.
  - Rezone a portion of Rocky Knob in the bottom of Rock Castle Gorge as special cultural resources to provide greater protection of sensitive cultural resources in the area.
  - Rezone a portion of Cumberland Knob as visitor services to provide a greater range of services and opportunities for visitors, including a location for a Park-as-Classrooms program.
  - Rezone the majority of Julian Price as natural to provide a greater advantage to natural resources that would be achieved through floodplain restoration, increased wetland protection, and lower impact recreational opportunities.
- Focuses resources on the traditional parkway experience, including management based upon the original Parkway Land Use Maps as closely as possible.
  - Embraces a regional, ecosystemwide approach to natural resource management.
  - Enhances outdoor recreational opportunities on parkway lands, including regional trail connection through collaborative planning.
  - Emphasizes strategic planning and partnerships to address land and watershed protection issues, education, and interpretation.
  - Recognizes that parkway concessions are a vital part of the parkway experience and seeks to invest in those structures and businesses to make them more viable.
  - Allows for moderate upgrades to campgrounds, rather than wholesale redesign.

With these modifications, alternative B clearly has the greatest overall advantage in comparison to the other alternatives. Key components of the NPS preferred alternative include the following:

## POTENTIAL BOUNDARY ADJUSTMENTS

Unlike many national park system units, the Blue Ridge Parkway's establishing legislation did not limit or direct land protection by establishing a legislated boundary or an acquisition ceiling. However, more specific direction for any parkway boundary adjustments were promulgated under two congressional acts—the Act of June 30, 1936 (49 Stat. 2041), that created the Blue Ridge Parkway, and the Act of June 30, 1961 (75 Stat. 196) that further authorized the purchase and exchange of land and interests in land to adjust ownership lines and to eliminate hazardous crossings of and access points to the parkway. Also, a ruling in the United States Court of Appeals, Fourth Circuit (June 29, 1970) found that acquisition of land for the parkway was not limited solely to lands required for construction of the roadway but land acquired for recreation uses was within the statutory purpose of “consolidation” of land contiguous to the parkway when

necessary for public uses. The Fourth Circuit Court ruling also concluded that "scenery," "natural," "historic objects," and "wildlife" were included within the broad definition of the term "recreational."

Land protection for the parkway adheres to the congressional acts and court ruling and is further guided by a 1994 approved land protection plan that would be amended by a land protection process that moves away from the 1994 predetermined list of tracts of land to protect. Tracts of land that become available by willing sellers would be evaluated to determine which of eight resource and visitor use management criteria are met—boundary management and ownership, historic or cultural landscape sensitivity, transboundary natural resource threats, scenic easement issues, at-grade crossings or accesses, visual sensitivity or scenic quality, visitor experience opportunities, and off-parkway recreation needs and trends. Compatibility with parkway management zoning and current nonfederal ownership and uses and local land use planning also would be factors considered to establish priorities for protection.

Only those land protection actions with willing sellers and that meet the evaluation criteria and compatibility analysis stated above would be deemed necessary by the National Park Service to carry out the land protection purposes of the parkway. Land protection plan priorities would include acquiring interests in lands to accomplish one or more of the eight resource and visitor use management criteria, to ensure compatibility of adjacent land use, eliminate or control hazardous at-grade motor road crossings or accesses, provide for recreation or natural and cultural resource protection, and conserve quality scenic views.

When the parkway was established, the states of Virginia and North Carolina donated parkway right-of-way acreages of 100 and 115 acres per mile, respectively. This did not meet the National Park Service standard of 150 acres per mile. Thus, NPS acquisition of interests in land has been an ongoing land protection strategy for the parkway, with the

goal of meeting or exceeding the 150 acres per mile standard. That strategy would continue under land protection proposals presented in the general management plan with a difference in emphasis for each action alternative.

Other potential boundary adjustments would include focusing at-grade road access and crossing land protection projects throughout the Plateau and Highland segments and in the northern section of the Black Mountain segment where the majority of private and secondary road at-grade crossings and access points occur. Recreation projects would be more dispersed parkway-wide and might occur in any of the segments. Transboundary natural resource protection priorities would be greatest in segments 5 and 7 but could occur parkway-wide depending upon severity of threat to resources. Land protection projects to conserve quality scenic views would be based upon the parkway's scenery conservation system.

The scenery conservation system identifies some 1,200 landscape or view areas that lie beyond the parkway boundary and that are visible from overlooks, roadside vistas, agricultural leases, or scenic easements. Of the 1,200 view areas, about half of the scenic views are in the Plateau, Highland, and Black Mountain segments. Conservation of scenic views would be focused in these segments. Potential acquisitions are identified on a project-by-project basis when a willing seller or a private land trust contacts park land resource staff.

Because discrete boundary adjustments are authorized for park purposes on an as-needed basis, this general management plan does not call for any specific boundary adjustments.

# THE ALTERNATIVES

## ORGANIZATION OF ALTERNATIVES

Given the length and complexity of the Blue Ridge Parkway, information on the alternatives has been organized into three levels of detail: (1) parkway-wide, (2) parkway segments, and (3) major recreation areas. This organization is used to aid in the comparison of the no-action alternative, A, against both of the two action alternatives, B and C.

### Parkway-wide

The parkway-wide discussion presents the overall concept for each alternative followed by management strategies that affect parkway-wide programs, activities, or resources. These strategies are organized by the following 10 management topics:

- scenery conservation
- land protection
- natural resources
- cultural resources
- interpretation and visitor services
- concessions
- access and circulation
- campgrounds
- trails
- partnerships

For the no-action alternative, information is presented that helps identify current parkway-wide activities and programs, as well as some of the ongoing issues and concerns that the proposals for alternatives B and C may address.

### Parkway Segments

The seven parkway segments are based primarily on physiographic and landscape characteristics. This organization also separates out the two major urban centers along the parkway—Roanoke, Virginia, and

Asheville, North Carolina. The mapping and analysis of the parkway segments focuses specifically on the relatively narrow parkway road corridor; the large, complex recreation areas found in the segments are addressed separately. The segments are identified with reference to the roadway mileposts, beginning with “0” at the northern entrance of the parkway and ending at milepost 469 near the southern entrance.

- Segment 1—Ridge, mileposts 0–106
- Segment 2—Roanoke, mileposts 106–136
- Segment 3—Plateau, mileposts 136–217
- Segment 4—Highlands, mileposts 217–305
- Segment 5—Black Mountain, mileposts 305–377
- Segment 6—Asheville, mileposts 377–394
- Segment 7—Pisgah, mileposts 394–469



FIGURE 1. PARKWAY MILEPOST MARKER

### Parkway Recreation Areas

When the parkway was designed and constructed, the idea of providing a leisurely, scenic driving route included providing recreation areas at intervals where visitors could stop, rest, and recreate. Often referred to as the “pearls along the necklace,” many of

these recreation “pearls” are quite large and diverse in their natural and cultural resources and visitor services. There are 15 major recreation areas for which separate planning actions and zoning maps have been developed. These areas are shown on the parkway segment maps inside a gray box, which indicates that they are discussed and mapped separately on subsequent pages.

They are as follows:

- Humpback Rocks, mileposts 6–10
- James River/Otter Creek, mileposts 60–65
- Peaks of Otter, mileposts 82–91
- Roanoke Mountain, mileposts 118–122
- Smart View, milepost 155
- Rocky Knob, mileposts 166–174
- Mabry Mill, milepost 176
- Blue Ridge Music Center, milepost 213
- Cumberland Knob, mileposts 217–219
- Doughton Park, mileposts 236–247
- Julian Price Memorial Park, mileposts 295–300
- Linville Falls, mileposts 315–319
- Crabtree Falls, mileposts 339–340
- Craggy Gardens, mileposts 364–369
- Mt. Pisgah, mileposts 407–409

Please note that there are a few recreation areas that are not included in this list. Some, including Whetstone Ridge in Virginia and E.B. Jeffress Park in North Carolina, are relatively small, uncomplicated sites and are zoned in the parkway segment areas. A major exception is the Moses H. Cone Memorial Park near the cities of Boone / Blowing Rock, North Carolina. Due to some very specific management issues relating to trail use for bicycling and horseback riding, a separate developed area management plan and environmental assessment is being prepared for this area. (For more information, refer to the segment 4-Highlands page.)

## **ALTERNATIVE CONCEPTS AND STRATEGIES**

### **Alternative A: Continuation of Current Management Practices**

This alternative would continue how the Blue Ridge Parkway has been and is now being managed; issues are addressed through superintendent’s orders or other program-specific policy guidance, but there is not a comprehensive parkway-wide resource and visitor use management direction for setting priorities. Resource and visitor use issues and conflicts are resolved on a case-by-case basis without the guidance of an agreed upon parkway-wide management strategy.

Under this alternative, the parkway would continue to be managed primarily as a scenic recreational driving experience and designed landscape, as conceived and realized over several decades, from the founding vision of the park in 1935 to at least 1955, and possibly later. (A national historic landmark nomination which is underway will provide a comprehensive analysis of the exceptional qualities of the parkway and a definitive statement of its period of significance.) The original driving experience was designed for ideal picturesque scenery ranging from landscaped roadsides to quaint Appalachian settlements to rolling pastoral farm fields to imposing mountain vistas.

Although parkway managers would continue to strive to maintain the various aspects of the original designed landscape and scenic driving concept, the parkway would continue to adjust daily management practices to respond to current laws and policies, natural and cultural resource management mandates, visitor safety needs, infrastructure deficiencies, fiscal constraints, changes in regional conditions, and changes in visitor use.

Partnerships would continue to be an integral part of park management, but would still be used for specific projects as opportunities arise, rather than pursuing a regional strategy

to address issues through partnerships both inside parkway boundaries and beyond.

### **Scenery Conservation.**

- Complete the baseline evaluation of the quality and condition of off-parkway scenic views as seen from parkway overlooks and roadside vistas.
- As opportunities arise, and especially as impending land use changes threaten to diminish views from the parkway, use the baseline evaluation to work with adjacent landowners, county officials, developers, land trusts, and other partners to conserve the idealized scenes of the central and southern Appalachians through land purchases, easements, or creative partnerships with landowners, land trusts, and municipalities.

### **Land Protection.**

- Continue to acquire interests in lands adjoining the parkway boundary from willing sellers to eliminate private road accesses (consistent with parkway legislation), to consolidate irregular portions of the parkway boundary that are difficult to manage, and to conserve tracts of land of moderate to high scenic quality (see also “Scenery Conservation” above).
- Continue to amend the current land protection plan on an as-needed basis without an overall land protection strategy.

### **Natural Resources.**

- Inventory and management of natural resources continues to be primarily site-specific and reactive to laws and policies, visitor safety concerns, and projects in the parkway.
- Continue to plan the natural resource program on an annual basis, thus discouraging the implementation of multiyear projects and engaging partners on a project-specific basis.

- Continue to manage the parkway as a class II air quality park; this classification does not qualify the parkway for funding to monitor and influence air quality standards in the region.
- Continue to manage wildlife with a focus primarily on individual and nuisance species.
- Manage invasive flora and fauna only where they affect threatened and endangered species. Continue to work with partners on site-specific projects.
- Continue to manage designed landscape features, such as human-made lakes, for scenic and recreational purposes.
- Continue to manage roadsides, vista clearings, and agricultural leases primarily for scenic qualities. Vista management strategies would continue to incorporate habitat mitigation measures to protect the Carolina northern flying squirrel.

### **Cultural Resources.**

- Seek designation of the designed parkway corridor as a national historic landmark district while continuing to manage it as an eligible resource. The principal components of this designed landscape are the parkway road with its supporting structures and constructed landforms, a scenic corridor provided by a broad right-of-way, a chain of 17 original and 3 more recent recreation areas, and a variety of exhibits interpreting the natural and cultural histories of the region.
- Continue to give priority for preservation to historic structures that are directly associated with the parkway's original design intent and that are listed as structures contributing to the national significance of the parkway. Structures constructed or acquired after 1955 are not considered to contribute to the significance of the parkway and as such, their merits for listing on the National Register of Historic Places and preservation activities would be determined individually.

- Continue to manage currently maintained vistas above 4,000 feet elevation, but determine their size and configuration by best practices for managing the potential habitat of sensitive species.
- Where operationally feasible, continue to use the historic Parkway Land Use Maps, which document the as-built conditions and desired future maintenance standards for the designed landscape, as a guide for maintenance of the parkway road prism within available funding resources.
- When an endangered species is present or a similar natural resource issue occurs, modify the management of cultural resources on a case-by-case basis.

#### **Interpretation and Visitor Services.**

- Continue to implement curriculum-based school outreach programs using current staffing levels at schools and in the parkway, as available, during the school year.
- Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.
- Continue visitor education using publications and waysides.
- At the parkway's 14 visitor contact stations, have park and partner staff continue to contact about 1 million of the 16 million annual visitors.
- Continue to maintain 20 recreation areas along the length of the parkway with traditional visitor services that support a recreational and scenic driving experience, including camping, lodging, restaurants, camp stores, and picnic sites.

**Concessions.** Continue to offer concession services, primarily lodging and food, at some locations where economically feasible. Concession services that are no longer economically viable would be eliminated. The structures housing those services would either

be adaptively used or removed (except for those eligible for listing on the National Register of Historic Places).

#### **Access and Circulation.**

- Continue the moratorium on secondary road improvement projects in both Virginia and North Carolina until a comprehensive corridor access management plan and environmental impact statement are completed. Only address road improvements that are necessary to ensure public health and safety outside the comprehensive planning and compliance process. Continue to evaluate primary state and federal highway improvements or new construction projects on a project-by-project basis.
- Continue to allow nonrecreational local and commuter traffic to increase as rural and urban lands adjacent to the parkway are developed for residential and commercial purposes.

#### **Campgrounds.**

- Continue to operate the parkway's nine campgrounds, including future repairs and rehabilitations focused on meeting backlog maintenance needs.
- Upgrade selected campground comfort stations to provide showers and universal accessibility.
- Maintain existing tent sites, including many small sites that do not adequately accommodate large, family sized tents.
- Maintain amphitheaters to provide ongoing interpretive programs for visitors.
- Maintain existing RV camping without water and electrical hookups at all campgrounds.
- Maintain existing access at all campgrounds, including that which does not adequately accommodate larger RVs (i.e., narrow roads, tight turns, and small parking spaces).

**Trails.**

- Work in partnership with the managers of the Appalachian National Scenic Trail to avoid sensitive resource areas by relocating some trail sections. Work with volunteer organizations and the state of North Carolina to complete the Mountains-to-Sea Trail within the parkway boundary where feasible.
- Continue to allow bicycling on the main parkway road and other parkway roads, recognizing that bicyclists would be sharing the road with higher volumes of motorized traffic, especially in the more urbanized areas of the parkway.
- Continue to allow equestrian use on designated trails.

**Partnerships.** Allow the parkway’s active partnership program to continue to grow and develop. Continue current pace, growth, and evolution of partnerships. Respond on a case-by-case basis to requests for new partnerships with public and private entities in joint ventures.

**Alternative B: NPS Preferred**

The parkway would be actively managed as a traditional, self-contained, scenic recreational driving experience and designed landscape. To support that experience, many of the parkway’s recreation areas would provide enhanced opportunities for dispersed outdoor recreation activities.

Although similar to alternative A, this alternative would more proactively blend newer law and policy requirements and operational constraints with the traditional parkway concept developed from 1935 to 1955. As a result, this alternative would provide a better balance between traditional parkway experiences and modern-day management realities. For example, some areas would be managed differently to address natural and cultural resource concerns and visitor experiences or to achieve critical operational efficiencies.

This alternative would provide a comprehensive parkway-wide approach to resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and development would be applied to parkway lands consistent with this concept. This alternative would also seek to enhance resource protection, regional natural resource connectivity, and build stronger connections with adjacent communities.

**Scenery Conservation.**

- Complete the baseline evaluation of the quality and condition of off-parkway scenic views as seen from parkway overlooks and roadside vistas. Using the baseline evaluation as a guide, identify views along the parkway to be protected.
- Actively collaborate with adjacent landowners, county officials, and developers on a site-specific project basis to conserve priority scenery. In addition, the parkway would work with its partners to provide leadership for regional efforts among adjacent landowners; local, state, and federal officials; and developers to establish long-term strategies for conserving views from the parkway.

**Land Protection.**

- Continue to acquire interests in lands adjoining the parkway boundary from willing sellers to eliminate private road accesses (consistent with parkway legislation), to consolidate irregular portions of the parkway boundary that are difficult to manage, and to conserve tracts of land of moderate to high scenic quality (see also “Scenery Conservation” above). In addition, acquire interests in lands for protection of natural, cultural, and recreational resources, and seek regional partnerships to provide for additional options to protect resources.
- Implement a land protection strategy that does not identify specific tracts of land, but establishes (1) resource and



visitor use management criteria, (2) park management zoning and land use compatibility factors, and/or (3) other protection goals that would be used to evaluate the merits of a property when it becomes available from willing sellers. Proactively seek out willing sellers for high-priority parcels.

### **Natural Resources.**

- Make inventory and management of natural resources more proactive, incorporating a long-term approach that actively strives to advance regional ecosystem health through active partnerships with public and private entities.
- Establish a multiyear planning process for the natural resource program to implement multiyear projects.
- Pursue class I air quality classification and seek NPS and non-NPS project funding for monitoring and influencing air quality standards in the region.
- Shift wildlife management focus to a more ecosystem-based approach in the region.
- Consider strategies to maintain and improve habitat connectivity along and across the parkway corridor.
- Shift management of invasive flora and fauna from reactive, site-specific management to more comprehensive, parkway-wide and regional strategies.
- Continue to manage designed landscape features, such as human-made lakes, for scenic and recreational purposes.
- Modify some landscape areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, to actively protect natural resources. Improve habitat external to the parkway boundary through work with partners.

### **Soundscapes.**

- The following list includes indirect management strategies which apply information education, and persuasion

techniques to influence visitor behavior. Indirect management is often preferred because it allows visitors the freedom to choose their actions.

- Encourage visitors to be respectful of others by not producing excessive noise.
  - Develop and implement educational and interpretive programs on soundscapes.
  - Consider identifying and designating “quiet zone areas”. These areas would be identified on maps, through signs, and through interpretation. Visitors will be encouraged to be quiet enough to hear natural sounds in these areas.
  - Plan in advance. Notify visitors during the planning process of the importance of acoustic resources.
  - Encourage Leave No Trace Principle #7 (be considerate of other visitors) as related to soundscapes.
  - Collaborate with adjacent property owners, appropriate federal, state, and local agencies and organizations to reduce noise.
- The following list includes direct management strategies which rely upon enforcement of rules and regulations:
    - In sensitive acoustic zones, reroute loud vehicles to routes outside of the parkway, or to less sensitive acoustic zones within the parkway.
    - Park management should consider ways to reduce their own noise footprint, as well as those caused by visitors or outside sources. Operation of maintenance equipment, tools, and construction equipment should be limited to times and locations that minimize impacts on visitors and ecologically sensitive areas. Parkway staff should select models of equipment with the lowest sound levels and operational specifications that meet their needs. Increase the use of quiet technology where appropriate.
  - The following list includes indirect management strategies specifically designed for visitors riding motorcycles:

- Encourage quiet and courteous riding through education. This message could be delivered to motorcyclist through a variety of “messengers” including NPS staff, gateway communities, friends groups, and local partners and stakeholders. Example messaging for roadside signs, brochures, website, and visitor center: Don’t rev it up! Ride motorcycles respectfully along the parkway. Example messaging for campgrounds: Be considerate of campground quiet hours.
- Be aware that the noise you make could affect other visitors and encourage friends and family to do the same.
- Discourage use of modified exhaust systems that increase noise levels.
- The following list includes direct management strategies specifically designed for visitors riding motorcycles:
  - Consider having groups of organized riders acquire a special use permit.
  - Any applications for organized rides must go through NEPA analysis.
  - Enforce existing noise ordinances (36 CFR section 2.12). Under this section the following is prohibited: Operating motorized equipment or machinery that exceeds a noise level of 60 decibels measured on the A-weighted at 50 feet or, if below that level, nevertheless, makes noise that is unreasonable.
- Continue to give priority for preservation to historic structures that are directly associated with the parkway's original design intent and that are listed as structures contributing to the national significance of the parkway. Structures constructed or acquired after 1955 are not considered to contribute to the significance of the parkway and as such, their merits for listing on the National Register of Historic Places and preservation activities would be determined individually.
- Continue to manage currently maintained vistas above 4,000 feet elevation, but determine their size and configuration by best practices for managing the potential habitat of sensitive species.
- Update the historic Parkway Land Use Maps to protect the parkway’s historic integrity while accommodating newer law and policy requirements and operational constraints.

**Cultural Resources.**

- Seek designation of the designed parkway corridor as a national historic landmark district while continuing to manage it as an eligible resource. The principal components of this designed landscape are the parkway road with its supporting structures and constructed landforms, a scenic corridor provided by a broad right-of-way, a chain of 17 original and 3 more recent recreation areas, and a variety of exhibits interpreting the natural and cultural histories of the region.

**Interpretation and Visitor Services.**

- Continue to implement curriculum-based school outreach programs using current staffing levels at schools and in the parkway, as available, during the school year
- Expand operations at selected locations to provide services for a nine-month visitor season. These locations include: Humpback Rocks, James River, Peaks of Otter, Mabry Mill, Blue Ridge Music Center, Linn Cove, Linville Falls, Museum of North Carolina Minerals, Craggy Gardens, Folk Art Center, and Waterrock Knob.
- Increase visitor education using publications and waysides and emerging technology.
- Substantially increase the number of visitors contacted over current levels by providing visitor orientation services at underserved parkway entrances, particularly the northern and southernmost entrances.

- Continue to maintain 20 recreation areas along the length of the parkway with traditional visitor services that support a recreational and scenic driving experience, including camping, lodging, restaurants, camp stores, and picnic sites. Ensure that in the future these traditional recreation services remain a high priority and are enhanced, as needed, to respond to increases in visitor demand. This could be accomplished through hardening trails, providing overflow parking, and developing additional picnic sites, among other actions.

**Concessions.** Continue to find ways to provide viable concession services at all existing locations to ensure the long-term availability of in-parkway lodging, food, and other services. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate.

**Access and Circulation.**

- Continue the moratorium on secondary road improvement projects in both Virginia and North Carolina until a comprehensive corridor access management plan and environmental impact statement are completed. Only address road improvements that are necessary to ensure public health and safety outside the comprehensive planning and compliance process. Continue to evaluate primary state and federal highway improvements or new construction projects on a project-by-project basis.
- Accomplish management of some nonrecreational local and commuter traffic by replacing at-grade crossings with new grade separation structures (some without access between the parkway and state road).

**Campgrounds.**

- Continue to operate eight of the parkway's existing campgrounds,

including future repairs and rehabilitations focused on meeting backlog maintenance needs. Convert the Roanoke Mountain campground to a day use recreation area. Collaborate with local communities and other park partners to consider innovative ways to effectively manage Roanoke Mountain over the interim of this conversion from a campground to a day use area.

- Upgrade selected campground comfort stations to provide showers. Upgrade all campground comfort stations to be universally accessible.
- Enlarge selected tent sites to better accommodate family sized tents.
- Upgrade certain amphitheaters to better accommodate visitors during interpretive programs.
- Upgrade existing RV sites with water and electrical hookups at all campgrounds, except at Roanoke Mountain.
- Improve RV access to portions of campgrounds at Peaks of Otter and Julian Price. Upgrades at these campgrounds would include such things as widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces. Only a portion of the RV spaces at the campgrounds would be redesigned to better accommodate RVs.

**Trails.**

- Work in partnership with the managers of the Appalachian National Scenic Trail to avoid sensitive resource areas by relocating some trail sections. Work with volunteer organizations and the state of North Carolina to complete the Mountains-to-Sea Trail within the parkway boundary where feasible.
- Continue to allow bicycling on the main parkway road and other parkway roads, recognizing that bicyclists would be sharing the road with higher volumes of motorized traffic, especially in the more urbanized areas of the parkway.

- Ensure that undesignated social trails are not authorized within the parkway and any future designated connections to parkway trails would only be developed on public lands in collaboration with the associated local land management agencies.
- Strive to close and restore undesignated social trails in the parkway as much as possible, particularly when the undesignated trails are known to be causing notable negative impacts to natural resources, visitor experiences, or adjacent neighborhoods.
- Develop adequate, formal parking areas for designated parkway trails to ensure visitor safety, protect resources, and preserve community character in adjacent or nearby neighborhoods.
- Develop improvements for equestrian use in designated areas.

**Partnerships.** Actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals. Explore broader base of partnerships.

### **Alternative C**

Parkway management would be more integrated with the larger region's resources and economy. More emphasis would be placed on reaching out to communities and linking to regional natural, recreational, and cultural heritage resources and experiences.

The parkway would continue to be managed to retain the fundamental character of the traditional designed landscape and scenic driving experience. However, a variety of more modern recreational and visitor service amenities would be provided, primarily concentrated in visitor services areas. As a result, portions of some recreation areas would be redesigned.

Parkway lands away from the visitor services areas would be managed primarily to enhance regional natural resource connectivity and

scenic qualities. This alternative would also enhance visitors' ability to connect to, explore, and learn about the region's natural and cultural heritage. For example, parkway programs and facilities would be used to direct visitors to heritage trails, scenic byways, and other public lands.

This alternative would provide a comprehensive parkway-wide approach to resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and development would be applied to parkway lands consistent with this concept.

### **Scenery Conservation.**

- Complete the baseline evaluation of the quality and condition of off-parkway scenic views as seen from parkway overlooks and roadside vistas. Using the baseline evaluation as a guide, identify views along the parkway to be protected.
- Actively collaborate with adjacent landowners, county officials, and developers on a site-specific project basis to conserve priority scenery. In addition, the parkway would work with its partners to provide leadership for regional efforts among adjacent landowners; local, state, and federal officials; and developers to establish long-term strategies for conserving views from the parkway.

### **Soundscapes.**

- The following list includes indirect management strategies which apply information, education, and persuasion techniques to influence visitor behavior. Indirect management is often preferred because it allows visitors freedom to choose their actions.
  - Encourage visitors to be respectful of others by not producing excessive noise.
  - Develop and implement educational and interpretive programs on soundscapes.

- Consider identifying and designating “quiet zone areas.” These areas would be identified on maps, through signs, and through interpretation. Visitors will be encouraged to be quiet enough to hear natural sounds in these areas.
- Plan in advance. Notify visitors during the planning process of the importance of acoustic resources.
- Encourage Leave No Trace Principle #7 (be considerate of other visitors) as related to soundscapes.
- Collaborate with adjacent property owners, appropriate federal, state, and local agencies, and organizations to reduce noise.
- The following list includes direct management strategies which rely upon enforcement of rules and regulations.
  - In sensitive acoustic zones, reroute loud vehicles to routes outside of the parkway, or to less sensitive acoustic zones within the parkway.
  - Park management should consider ways to reduce their own noise footprint, as well as those caused by visitors or outside sources. Operation of maintenance equipment, tools, and construction equipment should be limited to times and locations that minimize impacts on visitors and ecologically sensitive areas. Parkway staff should select models of equipment with the lowest sound levels and operational specifications that meet their needs.
  - Increase the use of quiet technology where appropriate.
- The following list includes indirect management strategies specifically designed for visitors riding motorcycles.
  - Encourage quiet and courteous riding through education. This message could be delivered to motorcyclist through a variety of “messengers” including NPS staff, gateway communities, friends groups, and local partners and stakeholders. Example messaging for roadside signs, brochures, website, and visitor center: Don’t rev it up! Ride motorcycles respectfully along the parkway. Example messaging for campgrounds: Be considerate of campground quiet hours. Be aware that the noise you make could affect other visitors, and encourage friends and family to do the same.
  - Discourage use of modified exhaust systems that increase noise levels.
- The following list includes direct management strategies specifically designed for visitors riding motorcycles.
  - Consider having groups of organized riders acquire a special use permit.
  - Any applications for organized rides must go through NEPA analysis.
  - Enforce existing noise ordinances (36 CFR section 2.12). Under this section the following is prohibited: Operating motorized equipment or machinery that exceeds a noise level of 60 decibels measured on the A-weighted at 50 feet or, if below that level, nevertheless, makes noise that is unreasonable.

#### **Land Protection.**

- Continue to acquire interests in lands adjoining the parkway boundary from willing sellers to eliminate private road accesses (consistent with parkway legislation), to consolidate irregular portions of the parkway boundary that are difficult to manage, and to conserve tracts of land of moderate to high scenic quality (see also Scenery Conservation, above). In addition, acquire interests in lands for protection of natural, cultural, and recreational resources, and seek regional partnerships to provide for additional options to protect resources.
- Implement a land protection strategy that does not identify specific tracts of land, but establishes criteria for acquisition and/or other protection that would be used to evaluate the merits of a property when it becomes available from willing sellers. Proactively seek out willing sellers for high-priority parcels.

**Natural Resources.**

- Make inventory and management of natural resources more proactive, incorporating a long-term approach that actively strives to advance regional ecosystem health through active partnerships with public and private entities.
- Establish a multiyear planning process for the natural resource program to implement multiyear projects.
- Pursue class I air quality classification and seek NPS and non-NPS project funding for monitoring and influencing air quality standards in the region.
- Shift wildlife management focus to a more ecosystem-based approach in the region.
- Shift management of invasive flora and fauna from reactive, site-specific management to more comprehensive parkway-wide and regional strategies.
- Possibly convert some human-made water features to natural habitat.
- Modify some landscape areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, to actively protect natural resources. Improve habitat external to the parkway boundary through work with partners.

**Cultural Resources.**

- Seek designation of the designed parkway corridor as a national historic landmark district while continuing to manage it as an eligible resource. The principal components of this designed landscape are the parkway road with its supporting structures and constructed landforms, a scenic corridor provided by a broad right-of-way, a chain of 17 original and 3 more recent recreation areas, and a variety of exhibits interpreting the natural and cultural histories of the region.
- Continue to give priority for preservation to historic structures that are directly associated with the

parkway's original design intent and that are listed as structures contributing to the national significance of the parkway. Structures constructed or acquired after 1955 are not considered to contribute to the significance of the parkway and as such, their merits for listing on the National Register of Historic Places and preservation activities would be determined individually.

- Continue to manage currently maintained vistas above 4,000 feet elevation, but determine their size and configuration by best practices for managing the potential habitat of sensitive species.
- Create new parkway land use maps that would restore the parkway's original design intent that expresses viewsheds and landscapes of Southern and Central Appalachia. This would allow for minor deviations from the parkway's physical features when necessary.

**Interpretation and Visitor Services.**

- Continue to implement curriculum-based school outreach programs using current staffing levels at schools and in the parkway, as available, during the school year
- Expand operations at selected locations to provide services for a nine-month visitor season. These locations include: James River, Blue Ridge Music Center, Linn Cove, Museum of North Carolina Minerals, Craggy Gardens, and Waterrock Knob.
- Expand operations to provide services for a 12-month visitor season at select locations. These locations include: Humpback Rocks, Peaks of Otter, Mabry Mill, Linville Falls, and the Folk Art Center.
- Increase visitor education using publications and waysides and emerging technology and expand the parkway's active participation in regional heritage tourism projects.
- Substantially increase the number of visitors contacted over current levels by

providing visitor orientation services at underserved parkway entrances, particularly the northern and southernmost entrances. Provide regional visitor information services at Roanoke and Boone/Blowing Rock areas.

- Maintain flexibility of the design and function of all recreation areas and infrastructure, especially in the visitor services zones, to adapt to changing visitor use needs. Ensure that the management of visitor needs and resource values are well balanced and that visitors have opportunities for solitude and contemplation.

**Concessions.** Continue to offer concession services, primarily lodging and food, at some locations where economically feasible. Where concession services are eliminated, the parkway would look to the private sector in communities outside the parkway to provide those services. The structures housing those services would either be adaptively used or removed (except for those eligible for listing on the National Register of Historic Places).

#### **Access and Circulation.**

- Continue the moratorium on secondary road improvement projects in both Virginia and North Carolina until a comprehensive corridor access management plan and environmental impact statement are completed. Only address road improvements that are necessary to ensure public health and safety outside the comprehensive planning and compliance process. Continue to evaluate primary state and federal highway improvements or new construction projects on a project-by-project basis.
- Accomplish management of some nonrecreational local and commuter traffic by replacing at-grade crossings with new grade separation structures (some without access between the parkway and state road). In working with partners in parkway urban areas, consider extension of existing mass

transit connections as well as public and private shuttle systems to provide alternative transportation to parkway visitor facilities, where feasible.

#### **Campgrounds.**

- Continue to operate the parkway's nine campgrounds, including future repairs and rehabilitations focused on meeting backlog maintenance needs.
- Upgrade selected campground comfort stations to provide showers. Upgrade all campground comfort stations to be universally accessible.
- Enlarge selected tent sites to better accommodate family sized tents.
- Upgrade certain amphitheaters to better accommodate visitors during interpretive programs.
- Upgrade existing RV sites with water and electrical hookups at all campgrounds.
- Improve RV access for existing campgrounds at James River/Otter Creek, Peaks of Otter, Rocky Knob, Linville Falls, and Crabtree Falls. Upgrades at these campgrounds would include such things as widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces. Only a portion of the RV spaces at the campgrounds would be redesigned to better accommodate RVs.

#### **Trails.**

- Work in partnership with the managers of the Appalachian National Scenic Trail to avoid sensitive resource areas by relocating some trail sections. Work with volunteer organizations and the state of North Carolina to complete the Mountains-to-Sea Trail within the parkway boundary where feasible.
- Continue to allow bicycling on the main parkway road and other parkway roads, recognizing that bicyclists would be sharing the road with higher volumes of motorized traffic, especially in the more urbanized areas of the parkway.

- Ensure that undesignated social trails are not authorized within the parkway and any future designated connections to parkway trails would only be developed on public lands in collaboration with the associated local land management agencies.
- Strive to close and restore undesignated social trails in the parkway as much as possible, particularly when the undesignated trails are known to be causing notable negative impacts to natural resources, visitor experiences, or adjacent neighborhoods.
- Develop adequate, formal parking areas for designated parkway trails to ensure visitor safety, protect resources, and preserve community character in adjacent or nearby neighborhoods.
- Pursue development of paved, multiuse trails parallel to but separate from the parkway in the Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville urban areas to enhance opportunities for pedestrians and bicyclists to safely recreate in the parkway corridor where traffic levels are higher and opportunities to link to regional trail systems are available.
- Consider connections to regional equestrian trails.

**Partnerships.** Actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals. Explore broader base of partnerships.



## MANAGEMENT ZONES

Management zones define specific resource conditions, visitor experiences, appropriate recreational activities, and levels and types of development to be achieved and maintained in different areas of the parkway for each action alternative. Because management zones were first developed as a part of this current planning effort, they do not apply to the no-action alternative. Proposed management zones for the parkway were presented to the public in *Newsletter 5: Preliminary Alternatives* (Spring 2008) and were modified in response to public comments.

### DESCRIPTION OF MANAGEMENT ZONES

There are eight designated management zones for the Blue Ridge Parkway.

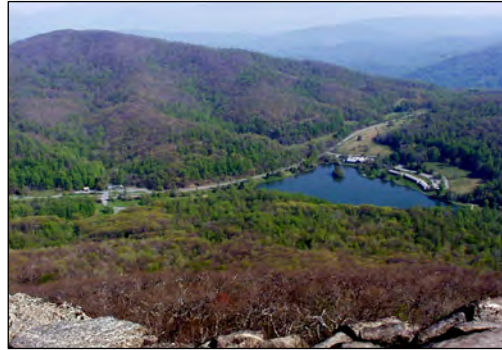
#### Special Natural Resources



**FIGURE 2. ROADSIDE VIEW NEAR GRAVEYARD FIELDS**

This zone represents areas that would emphasize the highest level of protection of sensitive habitats. Natural resources and processes would be preserved to maintain their pristine conditions and ecological integrity. Visitor opportunities would be limited to avoid human-caused impacts on these sensitive or rare ecosystems.

#### Natural



**FIGURE 3. PEAKS OF OTTER**

This zone represents areas that would support the broader ecological integrity of the parkway where natural processes predominate. Only low-impact recreational activities would be allowed. Visitors would be immersed in nature with opportunities to experience solitude and tranquility.

#### Scenic Character



**FIGURE 4. PARKWAY MILEPOST 204**

This zone represents areas of the parkway that would emphasize protection and viewing opportunities of the scenic landscapes and natural and cultural settings of the central and southern Appalachian highlands.

## Recreation



**FIGURE 5. CRAGGY GARDENS**

This zone represents areas that would support moderate levels of visitor use to accommodate recreational, educational, and interpretive opportunities. While some resource modifications could occur, natural and cultural resources would remain largely intact.

## Historic Parkway



**FIGURE 7. PARKWAY MILEPOST 243**

This zone represents areas that would emphasize protection and interpretation of the historic parkway corridor, which includes the road prism and its original supporting structures and constructed landforms.

## Visitor Services



**FIGURE 6. VISITORS CENTER, BLUE RIDGE  
MUSIC CENTER**

This zone represents areas of the parkway that would support moderate to high levels of development and visitor services in order to accommodate concentrated visitor use and diverse recreational, educational, and interpretive opportunities.

## Special Cultural Resources



**FIGURE 8. BRINEGAR CABIN**

This zone represents areas that would emphasize protection of cultural landscapes and historic structures *not* associated with the design and development of the Blue Ridge Parkway. These include vernacular landscapes, such as the Harris Farm, or designed landscapes, such as the Moses H. Cone Estate.

## Park Support



**FIGURE 9. MAINTENANCE FACILITY,  
THE BLUFFS**

This zone represents areas of the parkway that support administrative facilities for operations and maintenance.

In formulating the action alternatives, management zones were placed in different locations on a map of the parkway according to each alternative's overall concept. For example, the overall concept for alternative C proposes a more ecosystem-based approach

to natural resource management, and as a result, a natural zone covers more parkway lands than under alternative B. This is because the natural zone includes management prescriptions that emphasize an integrated natural resource management approach; management prescriptions define the kinds of resource conditions and visitor experiences that should be achieved and maintained in a management zone.

## **MANAGEMENT ZONE COMPARISON TABLE**

The table on the following pages gives an overview of each management zone and describes the desired conditions for resources within each zone. It also allows comparison of the differences between zones—some slight, some major—in the tolerance for resource impacts, appropriate management activities, visitor use levels, and appropriate recreational activities.



**TABLE 3. BLUE RIDGE PARKWAY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
Overview	Areas that would emphasize the highest level of protection of sensitive habitats. Natural resources and processes would be preserved to maintain their pristine conditions and high ecological integrity. Visitor opportunities would be limited to avoid human-caused impacts on these rare ecosystems.	Areas that would support the broader ecological integrity of the parkway where natural processes predominate. Only low-impact recreational activities would be allowed. Visitors would be immersed in nature with opportunities to experience solitude and tranquility.	Areas of the parkway that would emphasize protection and sightseeing opportunities of the scenic landscapes and natural and cultural settings of the central and southern Appalachian highlands. Desired conditions include maintaining the visual variety of the parkway road's forested and pastoral/rural landscape settings consistent with early parkway design.	Areas that would support moderate levels of visitor use to accommodate a wide range of recreational, educational, and interpretive opportunities. While some resource modifications could occur, natural and cultural resources would remain largely intact.	Areas of the parkway that would support moderate to high levels of development and visitor services in order to accommodate concentrated visitor use and diverse recreational, educational, and interpretive opportunities.	Areas that would emphasize protection and interpretation of the historic parkway corridor, which includes the parkway road prism and its original supporting structures and constructed landforms, including overlooks, water features, and recreation areas.	Areas that would emphasize protection of cultural landscapes and historic structures <i>not</i> associated with the design and development of the Blue Ridge Parkway. These include vernacular landscapes, such as the Harris Farm, or designed landscapes, such as the Moses H. Cone Estate. Visitors would have opportunities to explore history first hand.	Areas of the parkway that support administrative facilities for operations and maintenance.
Natural Resource Condition	Ecological communities would be protected in a pristine condition, functioning unhindered by human activities and development. Globally imperiled habitats, state natural heritage areas and conservation sites, federal and state listed species, and other rare and exceptional natural resources, processes, systems, and values would be preserved and enhanced. <sup>1</sup>	Ecological integrity would be maintained by preserving and restoring natural resources and processes through an integrated natural resource management approach.	A mosaic of native vegetation communities would be maintained to showcase the parkway's diverse natural settings.	Natural processes would function unhindered by human activities and development in most areas, except where managed specifically for visitor use. The natural and pastoral settings of the parkway would be maintained or modified as necessary to provide appropriate recreational opportunities and visitor health and safety.	Natural systems and processes would be maintained to the greatest extent possible while emphasizing visitor use management objectives. The effects of developments and visitor use on the natural surroundings would be minimized through planning and design efforts.	The historic character of the parkway would be protected and maintained while allowing for modifications that achieve desired conditions for special natural resource.	Natural resources would be managed to maintain the character of these cultural landscapes.	Natural resources would be managed to accommodate facilities for park operations. The effects of developments on the natural surroundings would be minimized through planning and design efforts.
Tolerance for Natural Resource Impacts	Extremely low tolerance for natural resource impacts. Modification of natural resources would only occur when necessary to restore habitats or to mitigate for human-caused impacts. Evidence of visitor use would be largely unnoticeable.	Low tolerance for natural resource impacts. Only minimal modifications would be allowed that harmonize with the natural environment.	Low to moderate tolerance for natural resource impacts. Modifications that enhance the scenic qualities of the parkway's landscapes would be allowed in a manner that minimizes natural resource impacts.	Low to moderate tolerance for natural resource impacts on accommodate visitor use and to ensure visitor health and safety. Modifications would be aesthetically blended with the environment and designed to minimize resource impacts.	Moderate tolerance for resource impacts to accommodate visitor use and facilities. Modification of some visitor use areas would be allowed to enhance protection of sensitive natural resources.	Moderate tolerance for natural resource impacts in order to preserve the parkway's original design and historic structures that contribute to its national significance. Modification of some designed landscape areas, such as roadsides, vista clearings, and agricultural leases, would be allowed to enhance protection of sensitive natural resources.	Moderate tolerance for natural resource impacts to maintain these special cultural resources.	Moderate tolerance for natural resource impacts. Modification of natural resources would be allowed to accommodate park operations and to maintain employee health and safety.

<sup>1</sup> All globally imperiled habitats, state natural heritage areas and conservation sites, federal and state listed species would be protected within all of the management zones, as required by NPS policy.

**TABLE 3. BLUE RIDGE PARKWAY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
Appropriate Natural Resource Management Activities	Rare habitats would be actively restored and rare species would be recovered or reintroduced. Management activities would emphasize research, inventory, monitoring, prescribed burns, pest management, exotic species eradication, and other types of resource stewardship. There would be very little evidence of onsite management except when necessary to address threats to resources or prevent human-caused impacts.	Onsite management actions would emphasize resource protection objectives while providing limited facilities and services to support basic visitor needs. Management activities would emphasize research, inventory, monitoring, prescribed burns, pest management, exotic species eradication, and other types of resource stewardship. Degraded sites would be restored in order to reestablish natural systems and processes with a priority on rare habitats for threatened and endangered species.	Onsite management actions would emphasize maintaining the designed landscapes and open pastoral settings of the parkway with sensitivity to natural resource conditions, including wildlife corridors. Appropriate activities could include managing for certain types of vegetation types over others to help maintain certain desired landscapes, such as open, pastoral settings. Activities could also include prescribed burns, pest management and exotic species eradication, and other types of resource stewardship.	Degraded sites would be evaluated to determine if they should be hardened in order to accommodate visitor use or restored to a desired natural condition. Invasive species would be suppressed to prevent further spread or eradicated where feasible. Management would be adapted as needed to protect threatened and endangered species and rare habitats.	Natural resources would be actively managed to accommodate interpretive, educational, and other visitor services. Invasive species would be controlled to prevent further spread into other adjacent management zones. Management would be adapted as needed to protect threatened and endangered species and rare habitats.	Natural resources in the designed landscapes of the parkway would be actively managed to maintain the landscape appearance. Management would be adapted as needed to protect threatened and endangered species and rare habitats.	Natural resources would be actively managed as a component of the cultural landscape. Management would be adapted as needed to protect endangered species and rare habitats.	Natural resources would be managed as necessary to accommodate facilities for park operations. Management would be adapted as needed to protect endangered species and rare habitats.
Cultural Resource Condition	Cultural resources contributing to national historic landmark designation and national register-eligible properties would be preserved using methods that do not impact sensitive natural resource conditions. All other cultural resources would be evaluated to determine if they should be preserved, stabilized, restored, or left unmaintained.	Cultural resources contributing to national historic landmark designation and national register-eligible properties would be protected. Selected cultural resources would be preserved or stabilized in order to provide educational opportunities for visitors.	The visual variety of the parkway's forested, pastoral, and rural landscapes would be maintained consistent with the Parkway Land Use Maps.	Cultural resources contributing to national historic landmark designation and national register-eligible properties would be protected. Selected cultural resources would be preserved to reflect a particular era, allowing people to experience these resources first-hand to learn about their associated stories and events.	Cultural resources would be actively managed to accommodate interpretation, education, and other visitor services. Selected cultural resources would provide distinct visitor opportunities and experiences and would be the backdrop for interpretation, visitor use, and services where appropriate.	The historic design character and components of the parkway road prism, certain recreation areas, and facilities would be preserved.	Maintain the integrity of these primarily local and regionally significant structures and landscapes. A variety of resource treatments may be appropriate, depending on the condition and location of the resource.	Cultural resources contributing to the parkway's national historic landmark designation would be protected.
Tolerance for Cultural Resource Impacts	Low to moderate tolerance for cultural resource impacts.	Low to moderate tolerance for cultural resource impacts. Minor modifications of cultural landscape elements would be allowed only for resource protection.	Low to moderate tolerance for cultural resource impacts. Modifications that enhance the scenic qualities of the parkway's cultural landscapes would be allowed.	Low to moderate tolerance for cultural resource impacts when necessary to provide for visitor use.	Low to moderate tolerance for cultural resource impacts on provide for visitor use.	Low tolerance for cultural resource impacts.	Extremely low tolerance for cultural resource impacts.	Moderate tolerance for cultural resource impacts to accommodate facilities for park operations.

**TABLE 3. BLUE RIDGE PARKWAY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support	
Appropriate Cultural Resource Management Activities	Cultural landscapes would be allowed to gradually revert to a more natural state, except when cultural features can be preserved without compromising natural resource values. Cultural resources that do not contribute to parkway's national historic landmark designation could be stabilized or left unmaintained.	Selected historic structures would be stabilized or hardened <sup>2</sup> to provide enhanced educational and interpretive opportunities for visitors. Cultural resources that do not contribute to parkway's national historic landmark designation could be stabilized or left unmaintained.	The parkway's designed landscapes and open pastoral settings would be maintained with sensitivity to cultural resource conditions. Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.	Cultural resources that do not contribute to parkway's national historic landmark designation could possibly be stabilized or left unmaintained. Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.	Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.	Selected historic structures could be stabilized or hardened to provide enhanced educational and interpretive opportunities for visitors.	The historic character of the parkway would be preserved while allowing for minor modifications to achieve desired conditions for visitor experiences, resource protection, and vista management.	Cultural landscapes and historic structures would be preserved and maintained to reflect a particular era or appearance.	Cultural resources would be left undisturbed, except when necessary for constructing new facilities for park operations.
Overall Visitor Experience	Most visitors would experience these areas visually, as part of the more distant and rugged scenic views of parkway landscape. Limited opportunities would be available to visitors with time and backcountry skills who are seeking opportunities for outdoor challenge and solitude. Visitors would require a moderate to high level of skill, self-reliance, and effort to access these areas.	Visitors to these areas would likely encounter intact natural resources, features, and systems for personal inspiration, education, and recreation. Visitor would have, among a variety of outdoor recreation activities, opportunities to experience solitude, contemplation, self-reliance, challenge, and risk. Visitor would require a moderate level of skill and effort to access these areas.	Visitors would have opportunities to see and experience a variety of scenic settings evocative of central and southern Appalachian landscapes. Access would require a low to moderate degree of difficulty.	Visitors would have opportunities to participate in a range of both structured and self-guiding recreational, interpretive, and educational opportunities. Visitors would experience a mostly natural setting where some visitor services are available to accommodate moderate levels of use. Access would require a low to moderate degree of difficulty for visitors.	Visitors would have opportunities to participate in a range of recreational, interpretive, and educational opportunities to experience and learn about the natural and cultural heritage of the central and southern Appalachians in built environments and social settings. Visitors would experience a designed setting that supports high levels of use, including a variety of visitor services and overnight accommodations. Access to these areas would be easy for visitors.	Visitors would have a leisurely, uninterrupted driving experience in a designed roadway setting with a scenic backdrop of central and southern Appalachian landscapes and in the absence of commercial advertising, congestion, and driving conflicts. Access to these areas would be easy for visitors.	Visitors would see and experience historic structures in their original landscape settings that are indicative of the cultural heritage and settlement patterns of the region.	Visitor opportunities and experiences would not be emphasized in this zone to avoid interference with park operations and maintenance activities.	
Visitor Use Levels	Visitor use levels would be very low to protect resource integrity. If conditions warrant, especially fragile areas could be closed to visitation.	Visitor use levels would be low to avoid degrading natural resources and values.	Visitor use levels would be low to high, depending on the level of amenities and services.	Visitor use levels would be low to moderate, depending on the proximity to access points and developments.	Visitor use levels would be moderate to high. Visitors may experience traffic congestion in parking areas.	Visitors would encounter other vehicles at volumes and frequencies where free-flow speeds are maintained; where the ability to move in traffic is only slightly restricted; and where the effects of minor incidents and breakdowns are easily absorbed.	Visitor use levels would be low to moderate, depending on the proximity to access points and developments.	Visitor use levels would be very low.	

<sup>2</sup> In this context, hardening refers to properly securing structures to prevent unauthorized access, treating surfaces in historically appropriate methods to prevent vandalism (graffiti), placement of sacrificial surfaces to deter defacing of historic structures, increased patrol of these areas by law enforcement, or better illumination, etc.

**TABLE 3. BLUE RIDGE PARKWAY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
Appropriate Recreational Activities	<p>Law enforcement-led walks would be provided when appropriate for resource protection.</p> <p>Hiking and backpacking would be limited to designated trails only.</p> <p>Backcountry camping at designated sites would be considered.</p> <p>No horseback riding, mountain biking, or motorized vehicles would be allowed.</p>	<p>Low-impact recreational activities could include: hiking, backpacking, nature observation, photography, backcountry camping at designated sites, self-guiding interpretation, and small-group guided activities that do not degrade natural values.</p> <p>Horseback riding would be allowed on certain designated trails where appropriate. No mountain biking or motorized vehicles would be allowed, except when authorized for management activities.</p>	<p>Recreational activities would include: scenic viewing, photography, walking, guided hikes, and other activities that would be appropriate for particular landscape settings.</p> <p>Biking and horseback riding would be allowed on certain designated trails.</p>	<p>Recreational activities would include: organized group programs, self-guiding interpretation, nature observation, picnicking, hiking, backpacking, viewing natural and cultural resources, photography, exploring, and backcountry camping at designated sites.</p> <p>Biking and horseback riding would be allowed on certain designated trails. Mountain biking would be allowed on certain designated trails at Julian Price Park where appropriate (under alternative C).</p>	<p>There would be a wide variety of recreational opportunities available to visitors, including: dining, lodging, camping, walking, bicycling, picnicking, shopping, and scenic viewing, park special events, structured interpretive programs, and guided walks.</p>	<p>Recreational activities would include: low-speed and safe driving, scenic viewing, picnicking, bicycling, hiking, running, jogging, camping, interpretive activities, and other similar compatible uses.</p>	<p>Recreational activities would include: interpretive programs, sightseeing, photography, walking, and other activities appropriate to the setting.</p>	<p>Recreational activities would only be offered if they do not conflict with parkway operations and maintenance activities.</p>
Visitor Services	<p>Limited directional signs, onsite interpretive materials, and structured interpretive programs related to the management and protection of natural resources would be available to visitors at selected locations.</p> <p>Proactive education and law enforcement strategies would be emphasized to prevent exploitation of resources.</p> <p>Park staff and law enforcement presence would be low.</p>	<p>Directional signs, interpretive waysides, and structured interpretive programs would be provided to promote safe and responsible recreation.</p> <p>Proactive education and law enforcement strategies would be emphasized at targeted locations to prevent exploitation of resources.</p> <p>Park staff and law enforcement presence would be low.</p>	<p>Low levels of visitor services would be provided. The majority of services would be in adjacent zones, such as the historic parkway and visitor services zones.</p> <p>Park staff and law enforcement presence would be low.</p>	<p>Moderate levels of visitor services could be provided, such as orientation, guided interpretive programs, signs and wayside exhibits, and commercial services such as guided hikes and guided bicycle rides.</p> <p>Park staff and law enforcement presence would be moderate.</p>	<p>Moderate to high levels of visitor services would be provided and could include: orientation and interpretive programs, signs, wayside exhibits, commercial operations, convenience stores, dining, lodging, gift shops, and shuttle services.</p> <p>Park staff and law enforcement presence would be moderate to high.</p> <p>Orientation, interpretation, and educational opportunities would be concentrated in this zone.</p>	<p>Moderate levels of visitor services would be provided, such as orientation, interpretive and educational programs, signs and wayside exhibits, and commercial services.</p> <p>Proactive education and law enforcement would be emphasized to promote visitor safety.</p>	<p>Specific onsite interpretive themes would be presented to visitors.</p>	<p>Minimal visitor services would be provided.</p>



**TABLE 3. BLUE RIDGE PARKWAY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
Levels of Developments	<p>Minimal developments, such as unpaved trails, would be provided in a manner that limits habitat fragmentation and generally protects natural resource conditions.</p> <p>Existing developments that are not consistent with the desired natural resource conditions could be removed.</p>	<p>Minimal facilities would be provided for visitors that support resource protection and facilitate low-impact use, including backcountry campsites, pit toilets, unpaved trails, trailhead facilities, and onsite interpretive media when needed.</p> <p>Trail networks would be well planned; network density would be kept low to limit habitat fragmentation and generally avoid natural resource impacts.</p> <p>Existing developments that are not consistent with the desired resource conditions could be removed or modified.</p>	<p>Trails, roads, and other recreation facilities would be provided that are unobtrusive and blend with the natural and cultural landscapes of the parkway.</p>	<p>A moderate level of development would be provided to guide visitor use, enhance recreational opportunities, and protect resources, including: interpretive media, trails, trailhead restrooms, trail shelters, picnic tables, camp sites, access roads, and shuttle vehicles.</p> <p>There would be a low to medium density of road and trail networks to ensure safe access, circulation for visitors, and protection of resources. The surfaces of roads, trails, parking areas, and other heavy use areas may be hardened where appropriate.</p>	<p>There would be a moderate to high level of development to meet visitor use and park operation needs.</p> <p>Orientation, amenities, and visitor services would be provided that support a safe and satisfying experience, including: visitor centers, contact stations, concession lodging and food services, developed campgrounds, picnic areas, trails, interpretive media, parking areas, and sidewalks.</p> <p>There would be a medium to high density of paved roads and parking lots to ensure safe access and circulation for visitors.</p>	<p>Developments would include existing facilities in the parkway road prism, such as: roads, parking areas, trails, vista cuts, waysides, information and regulatory signs, bridges, tunnels, walls, fences, guard walls and rails, and drainage structures.</p> <p>Other types of development directly associated with the original parkway concept would include visitor contact stations, campgrounds, picnic areas, comfort stations, exhibits, and maintenance areas.</p>	<p>Trails, roads, signs, waysides, and interpretive exhibits would be provided in a historic context.</p>	<p>Administrative offices, maintenance structures, equipment and fuel storage, utility systems, staff offices, meeting spaces, and living quarters could be in this zone.</p>



**ACREAGE COMPARISON OF PARKWAY-WIDE MANAGEMENT ZONES**

Alternative A is the continuation of current management practices. It is based primarily on guidance from the original Parkway Land Use Maps, which do not include management zones. Therefore, no management zones are shown for this alternative. Instead, descriptive information is included about the nature, condition, use, and current management approaches for the entire parkway, parkway segments, and recreation areas.

For alternatives B and C, maps with overlaid management zones are provided on the following pages for each of the parkway segments and recreation areas. Accompanying these maps are descriptions of specific management approaches proposed for each segment or recreation area.

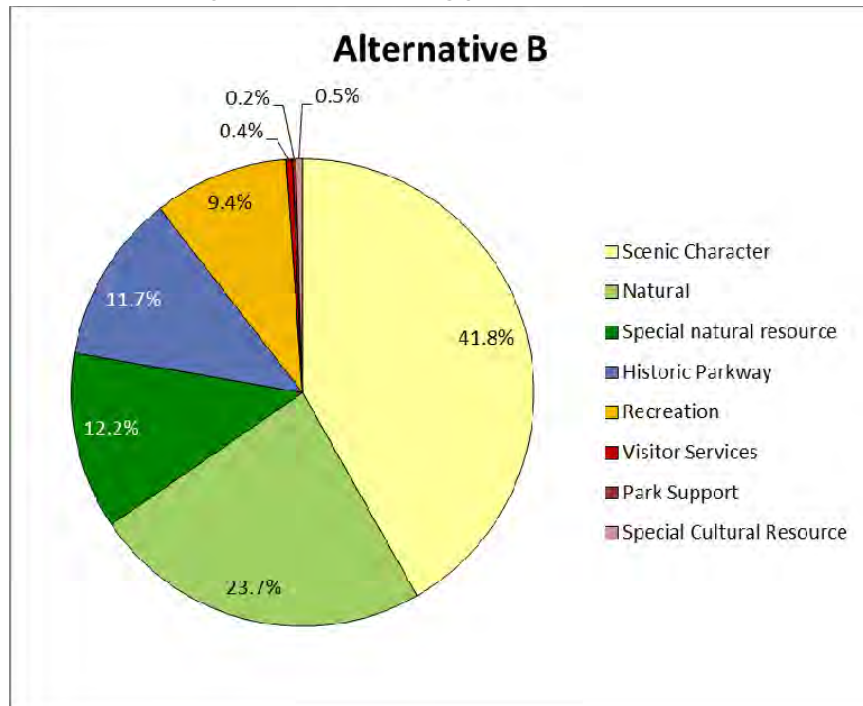
Table 4 and figures 10 and 11 compare the proportion of management zones in acres and percentages for all parkway lands in alternatives B and C.

In comparing the pie charts illustrated in figures 10 and 11, there is 5.8% more parkway land zoned for recreation in alternative B while in alternative C there is 6.2% more zoned as natural. The differences in acreage per these two management zones represents two different management emphases that are being proposed and evaluated in this document. In alternative B, parkway management would have more flexibility to expand infrastructure to accommodate recreational visitor use in those area originally included as developed recreation areas by parkway designers. Alternative C takes a more conservative approach holding recreation development at current levels and requires park management to direct demand for more recreation to opportunities outside the parkway.

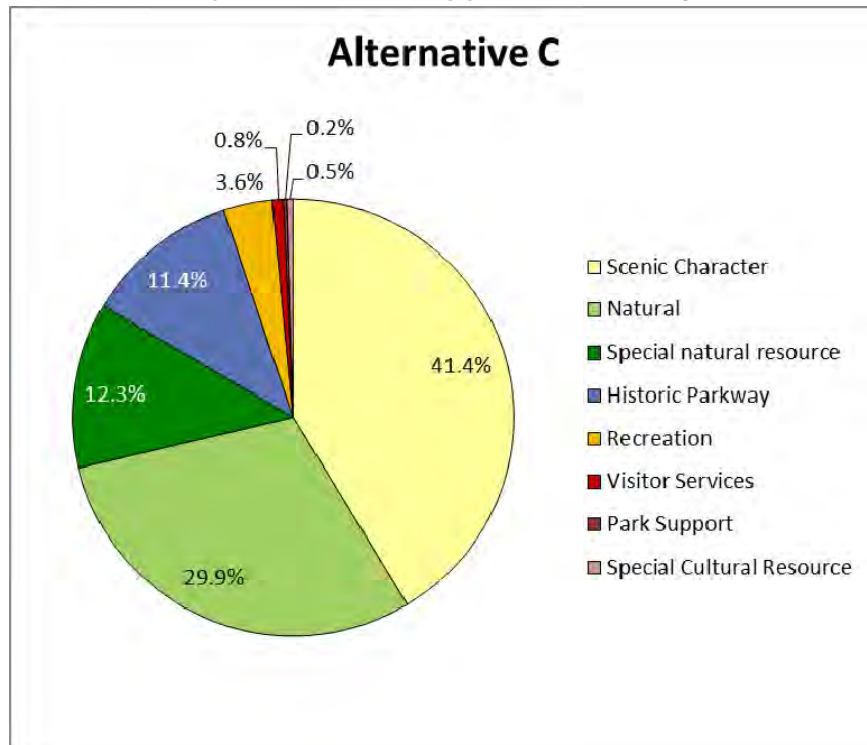
**TABLE 4. PARKWAY-WIDE MANAGEMENT ZONES BY ACTION ALTERNATIVES—ACREAGE CALCULATIONS**

Class	Zone Description	Acres in this Zone	
		Alternative B	Alternative C
SC	Scenic Character	34,322	33,997
N	Natural	19,491	24,584
SNR	Special Natural Resources	10,068	10,074
HP	Historic Parkway	9,623	9,349
R	Recreation	7,751	2,946
VS	Visitor Services	356	662
PS	Park Support	193	193
SCR	Special Cultural Resource	388	388

**FIGURE 10. PROPORTION OF MANAGEMENT ZONES FOR ALL PARKWAY LANDS UNDER ALTERNATIVE B**



**FIGURE 11. PROPORTION OF MANAGEMENT ZONES FOR ALL PARKWAY LANDS UNDER ALTERNATIVE C**



**COMPARISON OF MANAGEMENT STRATEGIES FOR PARKWAY SEGMENTS**

On the following pages, a brief description of each parkway segment is provided along with a comparison table of management strategies and zoning maps by alternative. The seven segments of the parkway are presented in order from north to south. They are as follows:

- segment 1—Ridge, mileposts 0–106
- segment 2—Roanoke, mileposts 106–136
- segment 3—Plateau, mileposts 136–217
- segment 4—Highlands, mileposts 217–305
- segment 5—Black Mountain, mileposts 305–377
- segment 6—Asheville, mileposts 377–394
- segment 7—Pisgah, mileposts 394–469

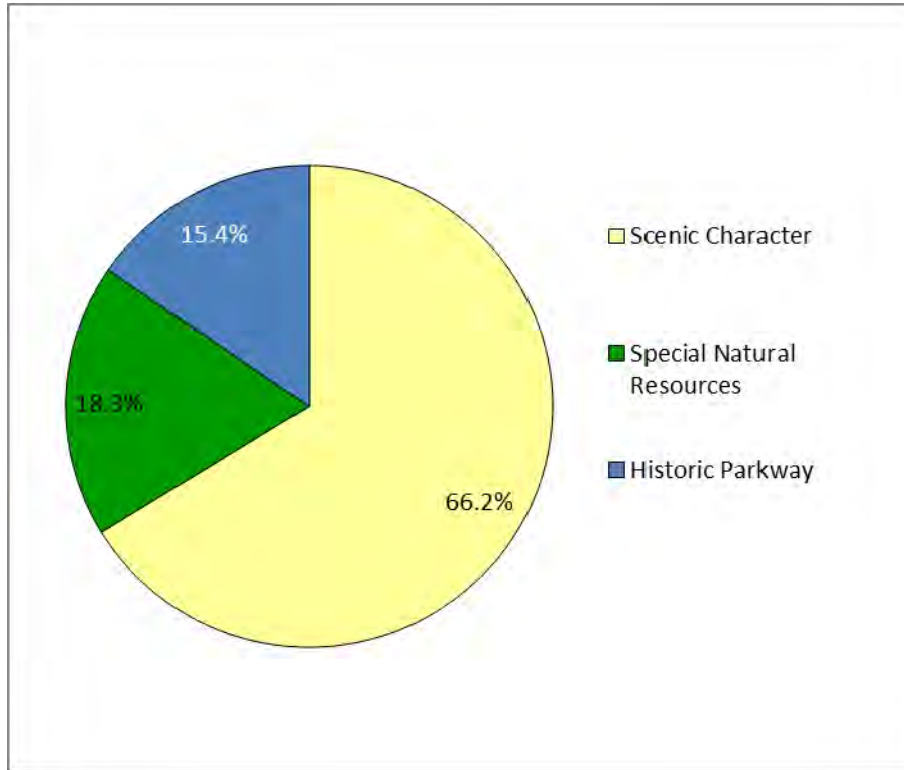
For alternatives B and C, maps with overlaid management zones are included for each of the parkway segments. Because the proposed

management zones in alternatives B and C for the seven segments are generally the same, only one map per segment is displayed. Also, the widths of the management zone colors shown on the segment maps are exaggerated for readability. The typical width of the parkway right-of-way averages 800 feet, but can be as narrow as 200 feet. Table 5 and figure 12 show the proportion of management zones in acres and percentages in all parkway segments for both alternative B and C. Please note: acreage calculations for the segments do not include recreation areas. The recreation areas are addressed later in this chapter.

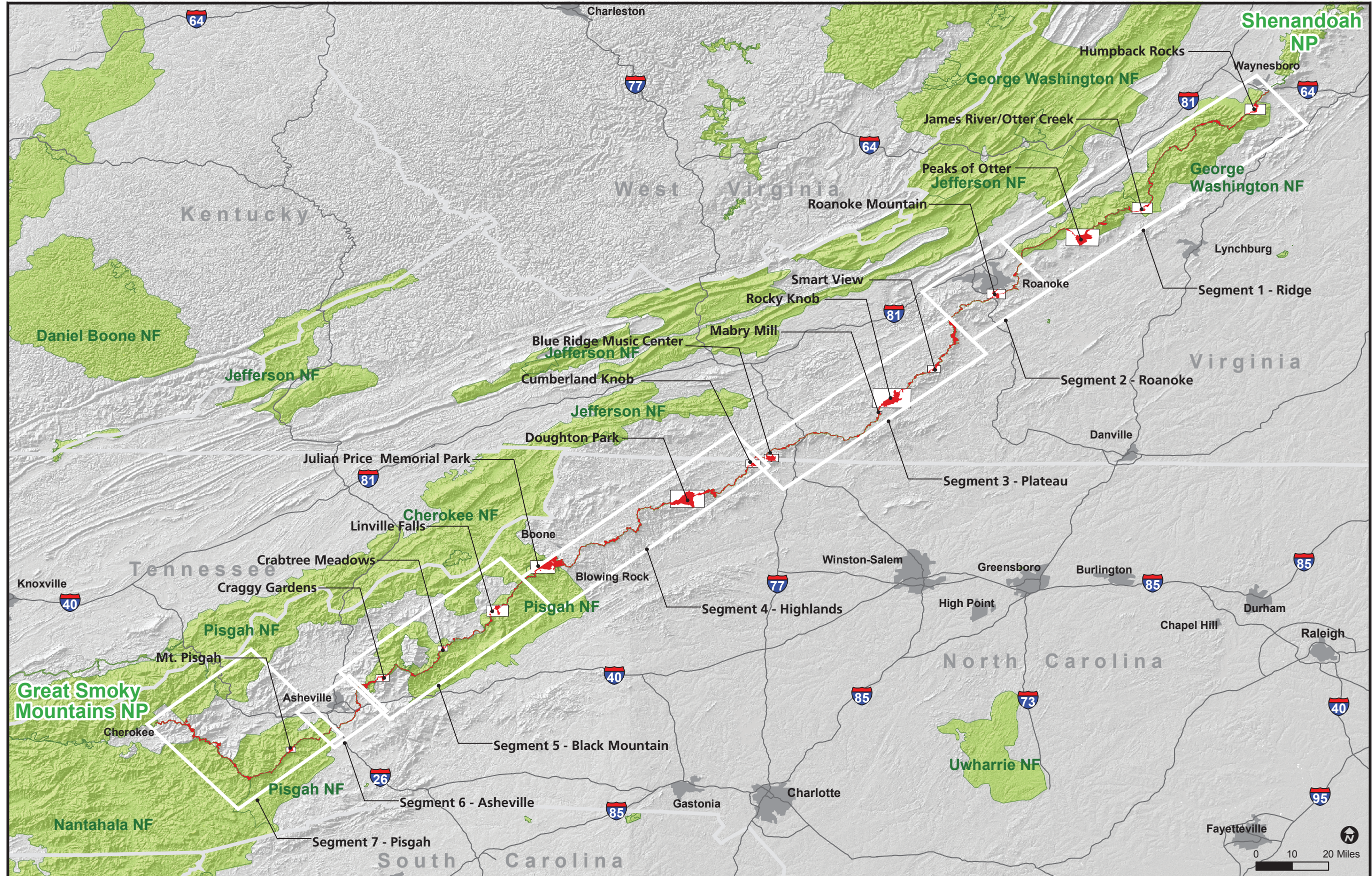
**TABLE 5. MANAGEMENT ZONES FOR PARKWAY SEGMENTS BY ACTION ALTERNATIVES—ACREAGE CALCULATIONS**

Class	Management Zones	Acres in this Zone
SC	Scenic Character	30,045
SNR	Special Natural Resources	8,319
HP	Historic Parkway	6,989

**FIGURE 12. PROPORTION OF MANAGEMENT ZONES FOR ALL PARKWAY SEGMENTS UNDER ALTERNATIVES B AND C**



PLANNING SEGMENTS INDEX MAP  
BLUE RIDGE PARKWAY • NORTH CAROLINA / VIRGINIA

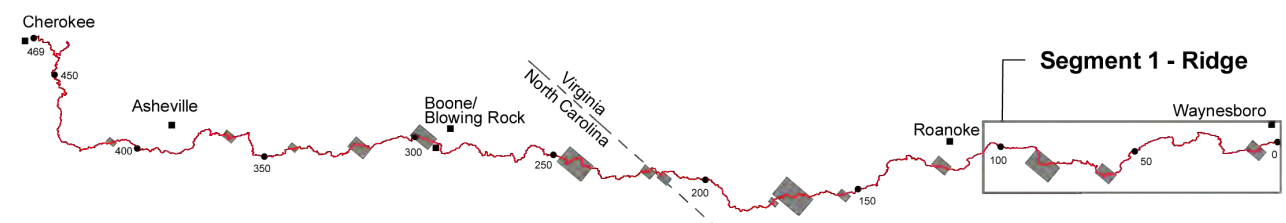
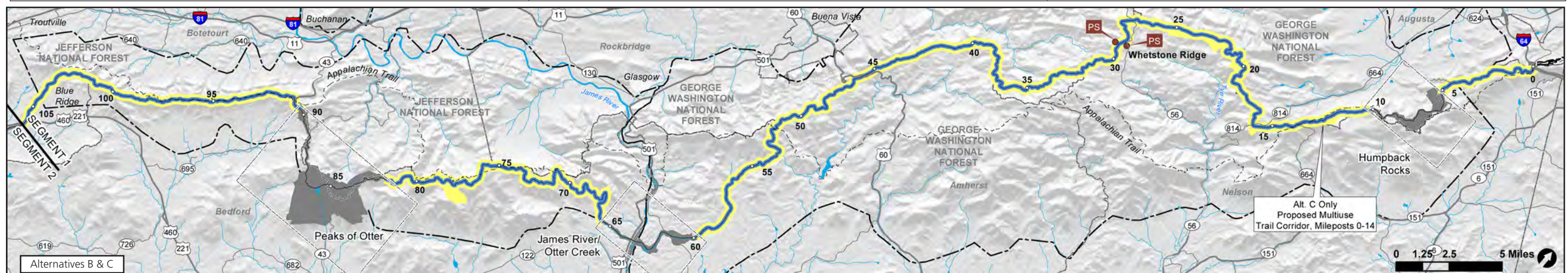


Segment 1 — Ridge, Mileposts 0-106

Many visitors travel directly from Shenandoah National Park and its Skyline Drive and enter seamlessly into the Blue Ridge Parkway at Rockfish Gap. For some this begins a spectacular 469-mile journey south to Great Smoky Mountains National Park. Visitors traveling through the Ridge segment experience a scenic drive through deep mountain forests interspersed with pastoral vistas of agricultural lands. Almost the entire segment is bounded by national forest lands and four wilderness areas. Climbing and descending ridgetops and gaps offer magnificent views of the Great and Rockfish valleys.

The segment also includes some of the parkway’s best examples of pre-1950 Appalachian structures, sites, and transportation routes. Many miles of the Appalachian National Scenic Trail (the AT) are located in this segment of the parkway. The trail is managed under separate rules and regulations and the only allowable trail uses are hiking, backpacking, and backcountry camping.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
The entrance at the north end of the parkway does not convey a sense of arrival. The first opportunity to obtain information and orientation to the parkway is 6 miles south of the entrance at Humpback Rocks.	At the north entrance, improve the quality of the visitor entry experience and provide orientation services. The goal would be to substantially increase visitor contacts over current levels. Potential actions include providing additional information and orientation through redesigning the existing pull-off parking area and installing new waysides. Parkway right-of-way is so narrow at the north entrance that NPS staff would have to partner with private landowners, local governments, Shenandoah National Park, and U.S. Forest Service to provide parkway information and orientation for visitors. The National Park Service would not fund or own a visitor center facility.	Same as alternative B.
The proximity of U.S. Forest Service lands and regional trails provides opportunities for trail connections. Continue ongoing partnership efforts with local stakeholders to improve regional trail connections and potentially accommodate new or additional types of uses.	Same as alternative A.	Same as alternative A.  Also, work with the U.S. Forest Service to identify opportunities for wilderness/trail recreation. Provide parking lots and other support services within the scenic character zone for access to U.S. Forest Service recreational opportunities.  Where feasible, pursue the development of paved multiuse trails parallel to, but separate from, the parkway in the Waynesboro area to enhance opportunities for pedestrians and bicyclists to recreate and travel safely with minimal interaction with automobile traffic. Establish connections between multiuse path and community trails.
Pullout design isolates some overlooks from passing traffic. Continue to manage using law enforcement patrols. No physical changes.	Make minor modifications to some overlook landscaping to improve pullout visibility by passing traffic.	Redesign some overlook pullouts to substantially enhance visibility of parking areas to passing traffic.



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

Parkway Lands  
Recreation Trails

Note: Parkway land boundary is based on the best available information.

Segment 1  
Ridge  
Mileposts 0-106

Blue Ridge Parkway  
North Carolina/Virginia

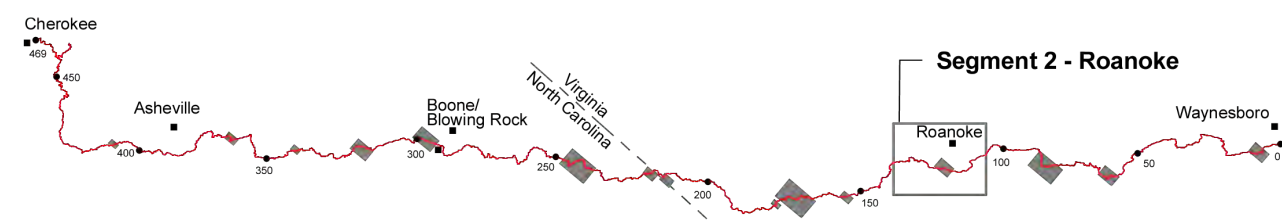
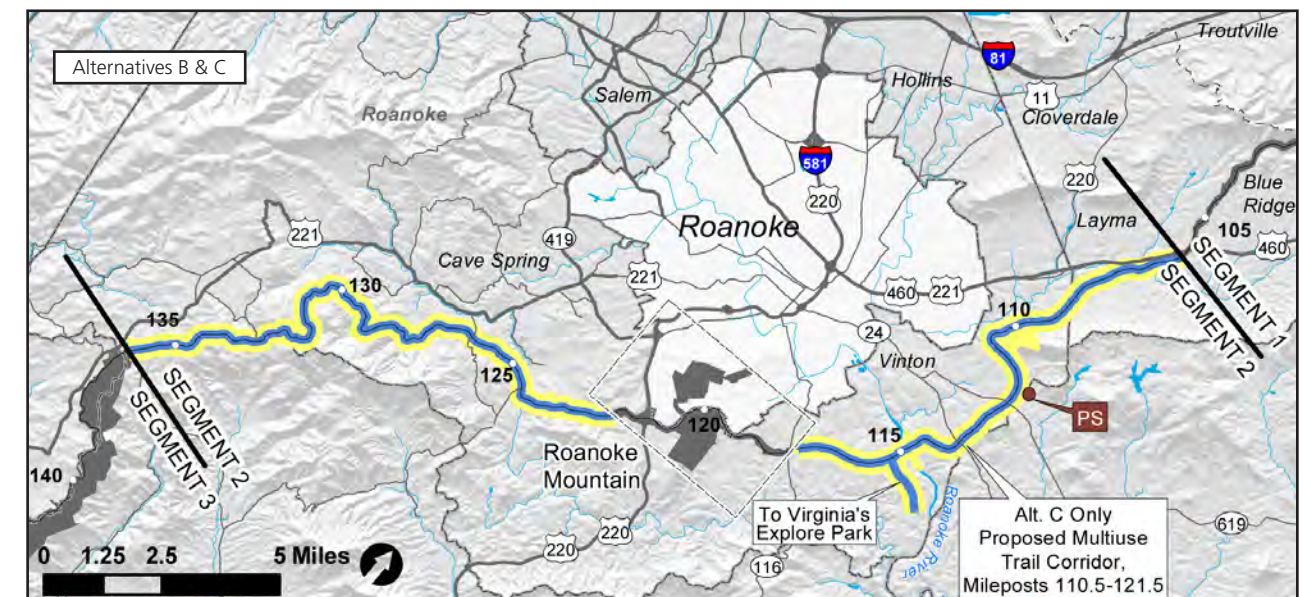


## Segment 2 — Roanoke, Mileposts 106-136

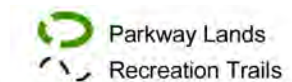
The pulse of the parkway begins to change as visitors travel into the Roanoke Valley, the largest urban area along the parkway with a population of 225,000. The elevation is lower, the number of farms increases as the land levels out, and the city approaches. Visitors find this area in a state of dramatic change from pastoral landscape to suburban

residential growth. This area is one of the best on the parkway for interpreting land use through time, as well as the current issues of scenic protection and land use management.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
This Roanoke segment would continue to be a major highway link between the parkway and regional transportation corridors, carrying much local commuter traffic. The Blue Ridge Parkway Visitor Center is located at, and operated by, Virginia's Explore Park.	Improve visitor orientation services in the Roanoke area of the parkway. The goal would be to substantially increase visitor contacts over current levels by staffing a National Park Service / Blue Ridge Parkway information desk and giving programs at a site off the parkway such as in a downtown Roanoke location.	Improve visitor orientation services in the Roanoke area of the parkway. The goal would be to substantially increase visitor contacts over current levels by staffing a National Park Service / Blue Ridge Parkway information desk and giving programs at a site off the parkway such as in a downtown Roanoke location.  Expand information and orientation capabilities through partnership and parkway staff at Virginia's Explore Park.
Pullout design isolates some overlooks from passing traffic. Continue to manage using law enforcement patrols. No physical changes.	Make minor modifications to some overlook landscaping to improve pullout visibility by passing traffic.	Redesign some overlook pullouts to substantially enhance visibility of parking area to passing traffic.
Continue to coordinate with city and others on Roanoke trail plan. Develop trails and provide trail connections.	Same as alternative A.	Same as alternative A.  Where feasible, pursue the development of paved multiuse trails parallel to, but separate from, the parkway in the Roanoke area to enhance opportunities for pedestrians and bicyclists to recreate and travel safely through the area with minimal interaction with automobile traffic. Establish connections between multiuse path and community trails.



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)



Note: Parkway land boundary is based on the best available information.

Segment 2  
Roanoke  
Mileposts 106-136  
Blue Ridge Parkway  
North Carolina/Virginia

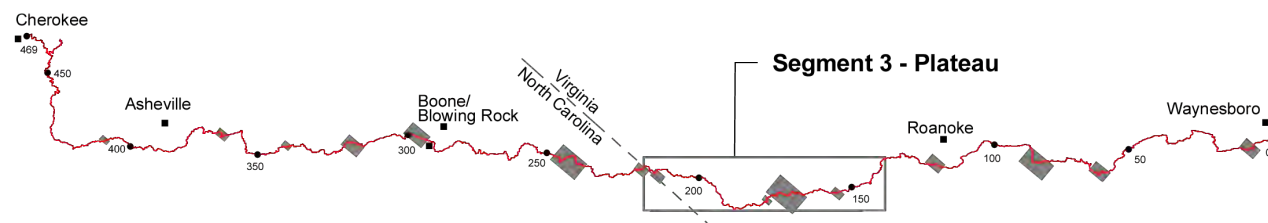
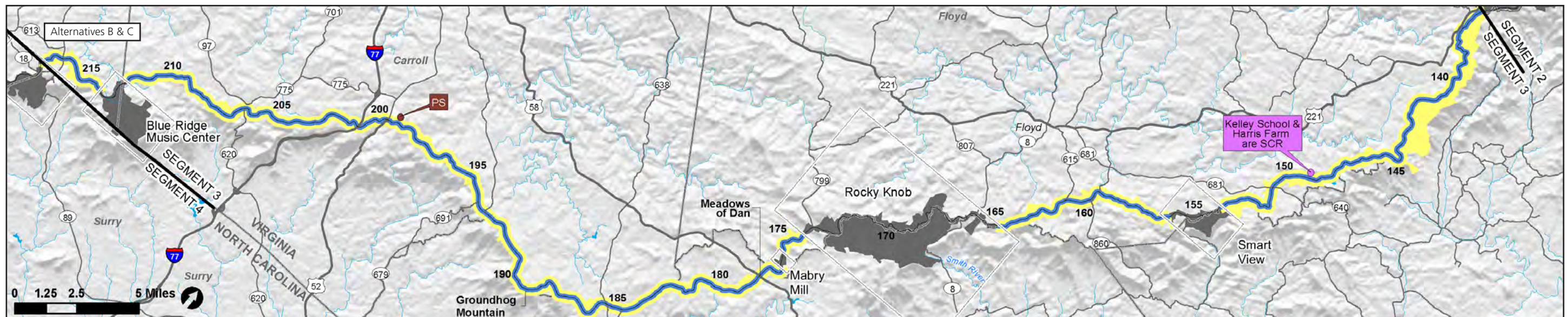
Segment 3 — Plateau, Mileposts 136-217

Visitors to this segment travel across the great plateau that overlooks Virginia’s piedmont region. They experience a mostly scenic drive through rolling hills that are a patchwork of farms, fields, and forests. Visitors have access to some major cultural sites along this segment, such as Mabry Mill, the most visited site on the parkway.

however, many of the adjacent lands have or are being subdivided. The quality of the views in this segment is diminished by development and the loss of the traditional pastoral landscape. With the growing development, the parkway has a high level of local traffic crossing and using it as part of the local road network.

This segment also includes Groundhog Mountain picnic area, observation tower, and fence exhibit. Unlike many segments of the parkway that are bordered by national forest lands, here the narrow parkway corridor is bounded by mostly privately owned rural and agricultural lands. The parkway maintains hundreds of agricultural leases;

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Continue to manage the Kelley School and a number of farms near milepost 149, including the Harris Farm, for their scenic pastoral qualities.	Same as alternative A.	In partnership with universities and nonprofits, manage Kelly School and farms as a visitor use and education attraction.



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

**Parkway Lands**  
● Recreation Trails

Note: Parkway land boundary is based on the best available information.

Segment 3  
 Plateau  
 Mileposts 136-217  
 Blue Ridge Parkway  
 North Carolina/Virginia

### Segment 4 — Highlands, Mileposts 217-305

The Highlands segment begins at the state line between Virginia and North Carolina. This segment offers the greatest variety of views and gives visitors a strong sense of “being away from it all.” The designed landscape in this segment retains much integrity of original vistas, landscaped bays, agriculture leases, stone walls, and wood fences. Also, this segment includes the oldest original section of the parkway. Just south of the state line the parkway climbs onto the edge of the escarpment where Cumberland Knob, the parkway’s first recreation area, is located.

From Cumberland Knob the roadway continues to wind around high mountain pastures before it drops in elevation to a forested landscape with views to the piedmont and high mountain valleys to the west. Much of the parkway is bordered by private lands in this area. The Northwest Trading Post is a concession-operated country store that provides local crafts and food products for visitors at milepost 258.6. EB Jeffress Park, at milepost 272, is a day use

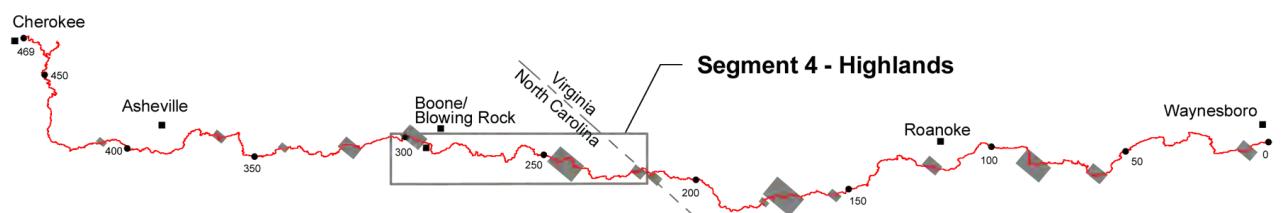
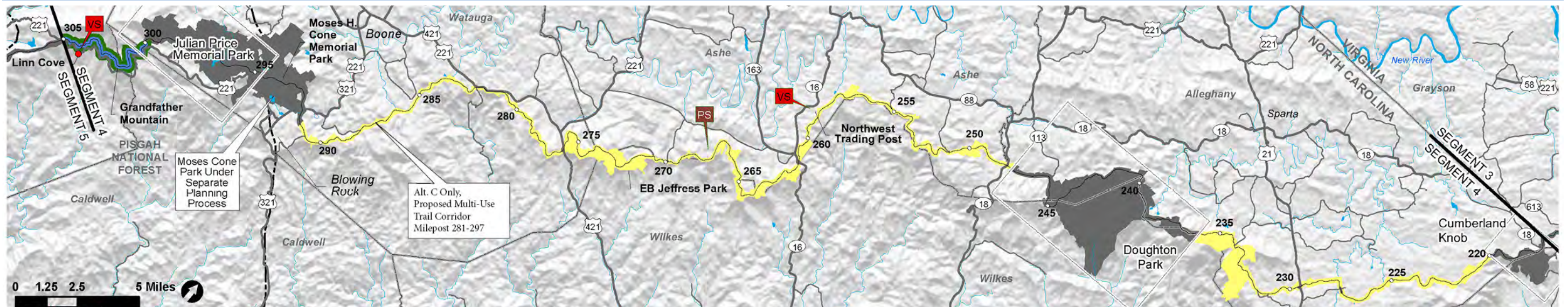
recreation area for hiking and picnicking, and no specific changes in facilities or visitor experiences are proposed.

The greatest area of population growth adjacent to this segment is in the Boone/Blowing Rock area, which is evident on the parkway in more urban views and higher levels of commuter traffic. At the southern end of this segment between mileposts 300 and 305 is Grandfather Mountain, which protects some of the most significant natural habitat and rare species in the southern Appalachians. This section of the parkway is bordered by national forest land and the state-owned Grandfather Mountain nature preserve. Outside of the road prism, this Grandfather Mountain section is zoned Special Natural Resources.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Continue ongoing partnership efforts with local stakeholders to improve regional trail connections and potentially accommodate new or additional types of uses.  There are unmet opportunities for additional recreation trails, especially in the Boone/Blowing Rock area.	Same as alternative A.	Same as alternative A.  Where feasible, pursue the development of paved multiuse trails parallel to, but separate from, the parkway in the Boone/Blowing Rock area to enhance opportunities for pedestrians and bicyclists to recreate and travel safely through the area with minimal interaction with automobile traffic. Establish connections between multiuse trail and community trails.
No major point of contact for visitors for park information and orientation would be provided in the Boone/Blowing Rock area.	Same as alternative A.	Improve visitor orientation services in the Boone/Blowing Rock area of the parkway. The goal would be to substantially increase visitor contacts over current levels by staffing a National Park Service / Blue Ridge Parkway information desk and giving programs at a site off the parkway such as in a downtown Boone or Blowing Rock location.

Moses H. Cone Memorial Park in North Carolina is a 3,500-acre site along the Blue Ridge Parkway near the Boone/Blowing Rock communities. This parkway area receives considerable recreational use and has some very specific management issues relating to trail use for bicycling and horseback riding. A separate developed area management

plan and environmental assessment for the site is under way. You will not see alternative maps for Moses Cone in this publication. However, any planning proposals for Moses Cone will be consistent with proposals made in the general management plan.



- Special Natural Resource (SNR)
- Historic Parkway (HP)
- Natural (N)
- Scenic Character (SC)
- Recreation (R)
- Special Cultural Resource (SCR)
- Visitor Services (VS)
- Park Support (PS)

**Parkway Lands Recreation Trails**

Segment 4  
Highlands  
Mileposts 217-305

Blue Ridge Parkway  
North Carolina/Virginia

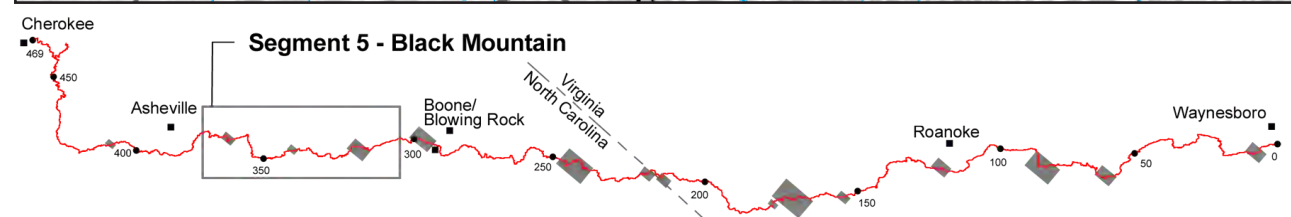
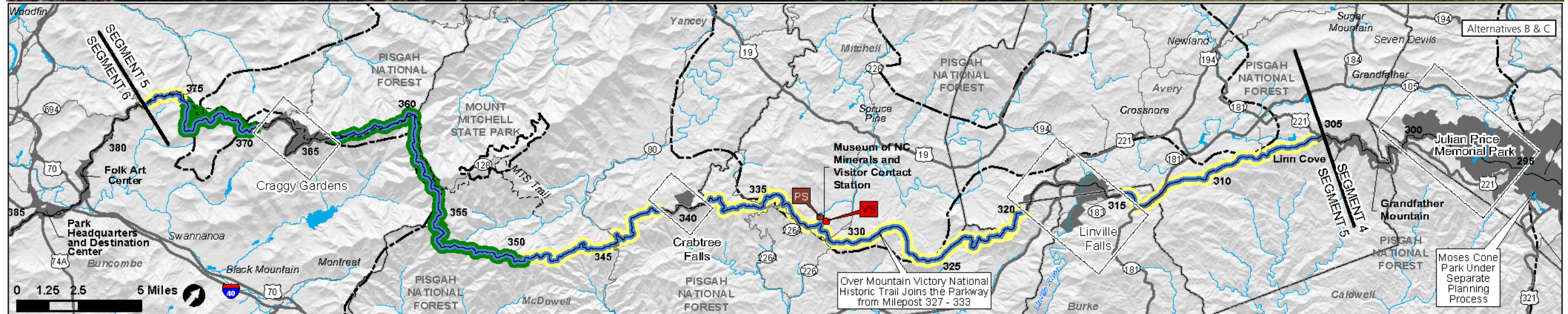
Note: Parkway land boundary is based on the best available information.

### Segment 5 — Black Mountain, Mileposts 305-377

Visitors traveling through the Black Mountain segment experience a scenic drive through a mountain forest, climbing and descending ridgetops and gaps that offer magnificent views of the valleys below. The Museum of North Carolina Minerals, in cooperation with the Mitchell County Chamber of Commerce, is a visitor facility that was recently renovated. This parkway segment, especially between mileposts 348 and 375, contains the critically, globally imperiled high-elevation spruce/fir forest community. Also, the broad, central dome of the massive Black Mountains includes the highest mountain east of the Mississippi, found at Mount Mitchell State Park near milepost 355. Through this segment, much of the adjacent land use is national forest, which helps protect the quality of views.

The Overmountain Victory National Historic Trail, commemorating the Revolutionary War route to the Battle of Kings Mountain, will intersect and follow the parkway between mileposts 327 to 333. The Minerals Museum is open year round.

No specific management strategies have been developed for the Black Mountain segment, other than management zone prescriptions.



Special Natural Resource (SNR)	Historic Parkway (HP)	Parkway Lands	Segment 5 Black Mountain Mileposts 305-377
Natural (N)	Scenic Character (SC)	Recreation Trails	
Recreation (R)	Special Cultural Resource (SCR)		Blue Ridge Parkway North Carolina/Virginia
Visitor Services (VS)	Park Support (PS)		

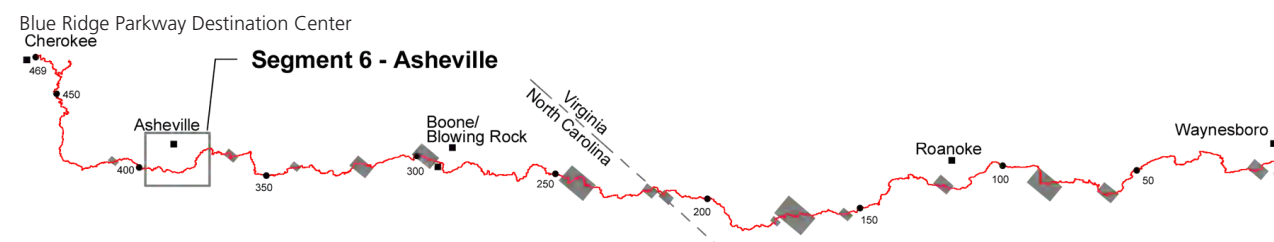
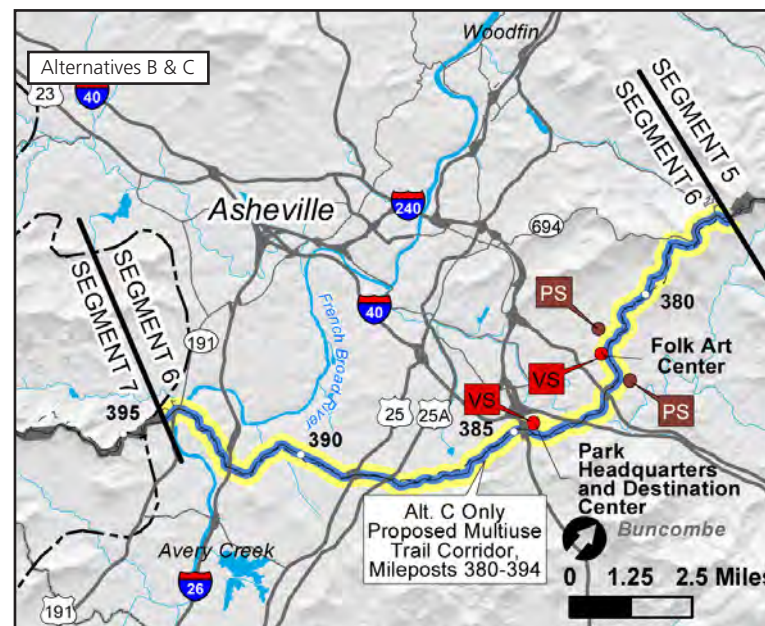
Note: Parkway land boundary is based on the best available information.

### Segment 6 — Asheville, Mileposts 377-394

The Asheville segment is the second largest urban area that the parkway passes through. Unlike the Roanoke segment, visitors entering this area are enveloped by the urban forest and have few views of the city landscape other than where the parkway crosses over city streets and waterways. This segment is popular for recreational trail use and is a major access area between the parkway and regional transportation corridors. At milepost 382 the Folk Art Center is operated by the Southern Highland Craft Guild, whose mission is to preserve and interpret the many expressions of folk art associated with the region, including music, dance, storytelling, and crafts. At milepost 384 is a new regional destination center that will help orient and introduce visitors to the many attractions

of the western North Carolina region. The center includes offices for the Blue Ridge National Heritage Area, which promotes the traditional Appalachian heritage of western North Carolina. Near milepost 393 the parkway and the North Carolina Arboretum work cooperatively on educational programs about traditional native plant uses.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Existing trails in the Asheville segment are heavily used, primarily by local residents. Continue ongoing partnership efforts with local stakeholders to improve regional trail connections and potentially accommodate new or additional types of uses.	Same as alternative A.	Pursue the development of paved multiuse trails parallel to, but separate from, the parkway in the Asheville area to enhance opportunities for pedestrians and bicyclists to recreate and travel safely through the area with minimal interaction with automobile traffic on shared roadways. Establish connections between multiuse path and community trails. When bridges are upgraded or changed, add pedestrian/bike lanes (no bike lanes would be added to the road prism).
Maintain current paved parking areas to accommodate trail access. Attempt to limit informal parking in areas that cause safety concerns and road shoulder damage.	Develop additional parking for recreational use.	Same as alternative B. Also, potentially provide staging for a shuttle system with the city of Asheville.



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

 Parkway Lands  
Recreation Trails  
Note: Parkway land boundary is based on the best available information.

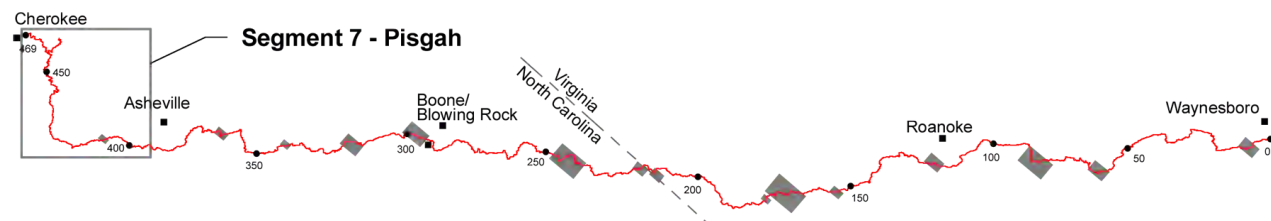
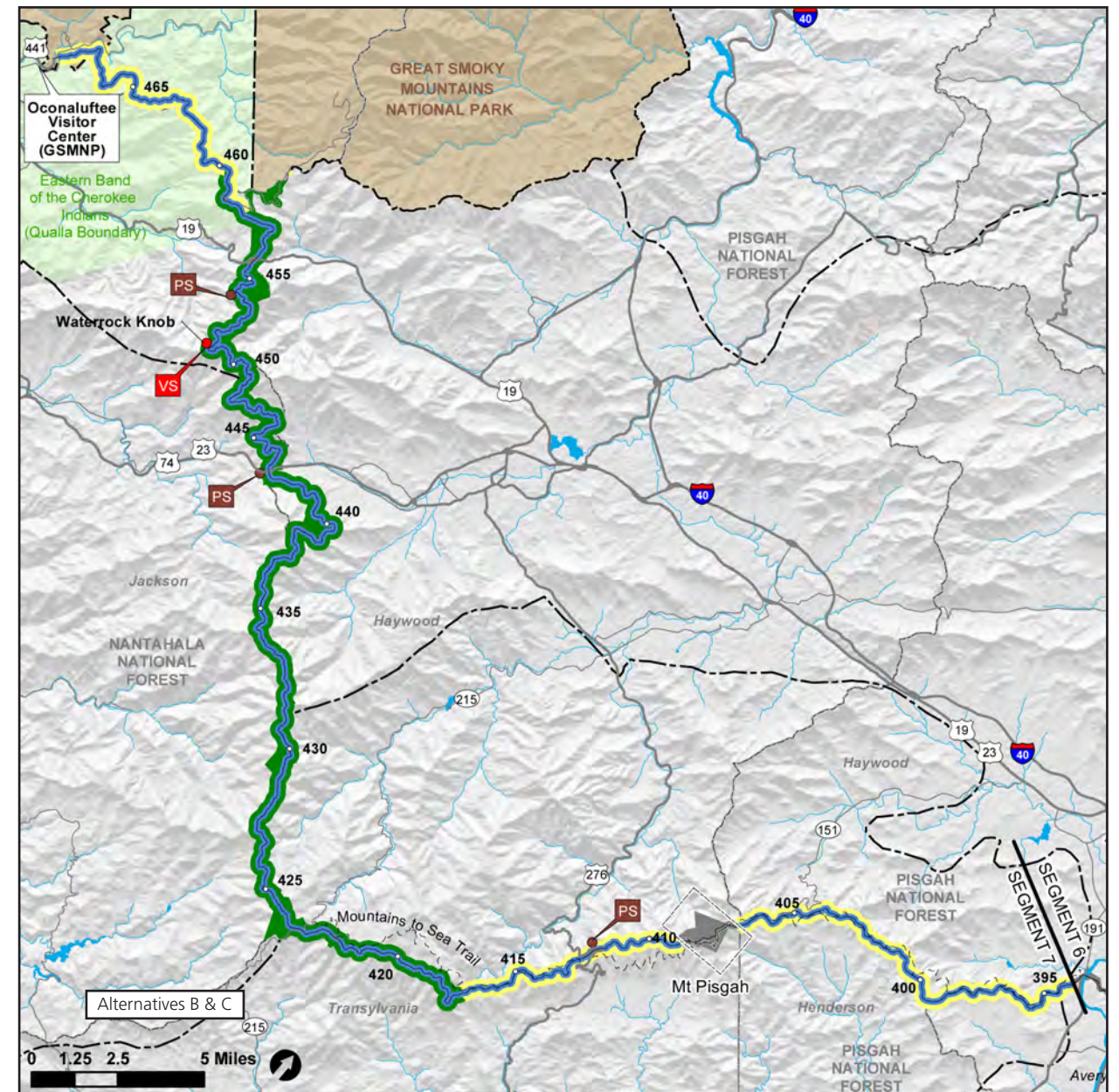
Segment 6  
Asheville  
Mileposts 377-394  
Blue Ridge Parkway  
North Carolina/Virginia

Segment 7 — Pisgah, Mileposts 394-469

In the Pisgah segment, the visitor experience is dominated by remote natural areas and dramatic views of high mountains. Most of the parkway here is bordered by national forests, including portions of the Shining Rock Wilderness. The area between mileposts 417 and 460 is dominated by the critically globally imperiled high-elevation spruce/fir forest. It is host to numerous sensitive vegetation and wildlife species. Here visitors have many

opportunities to learn about the area’s biological diversity and the parkway’s role in protecting many unusual plant and animal species. Visitors are encouraged to experience this area through scenic overlooks and hiking. The last 20 miles of the parkway pass through ancestral lands owned by the Eastern Band of Cherokee Indians, finally ending at Great Smoky Mountains National Park.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
The entrance at the south end of the parkway does not convey a sense of arrival. Orientation and interpretation waysides are located a distance from the entrance where it is difficult for visitors to stop safely. The first opportunity to obtain information and orientation about the parkway is 18 miles north of the entrance at Waterrock Knob. Continue to provide limited information and orientation for the parkway at the Great Smoky Mountains National Park’s Oconaluftee Visitor Center, located 2 miles from the parkway entrance.	At the south entrance, improve the quality of the visitor entry experience and provide orientation services. The goal would be to substantially increase visitor contacts over current levels. Potential actions include providing additional information and orientation through redesigning the existing pull off parking area and installing new waysides. Parkway right of way is so narrow at the south entrance that NPS staff would have to partner with private landowners, local governments, Great Smoky National Park, U.S. Forest Service, or Eastern Band of Cherokee to provide parkway information and orientation for visitors. The National Park Service would not fund or own a visitor center facility.	Same as alternative B.
About 7% of the vistas in this segment are spruce/fir habitat for sensitive species. Keeping them open adversely affects sensitive species.	Modify designed landscapes, including vistas and overlooks as needed, to protect sensitive natural resources. Modifications could include altering mowing patterns and vegetation management practices, including the extent to which vistas are cut, and modifying drainage structures.	Same as alternative B.
Continue current reactive management to invasive species on trail corridors. Trail corridors are helping to accelerate the introduction of invasive species of plants and this is a particular challenge between Asheville and Mount Pisgah.	Develop a comprehensive parkway-wide strategy to manage invasive plants. In this segment focus between Asheville and Mount Pisgah.  In cooperation with other land management agencies, develop regional strategies for managing invasive plants.	Same as alternative B.



Segment 7  
Pisgah  
Mileposts 394-469  
  
Blue Ridge Parkway  
North Carolina/Virginia

**COMPARISON OF MANAGEMENT STRATEGIES FOR RECREATION AREAS**

On the following pages, the more specific planning proposals for the 15 of the park’s 21 recreation areas are presented. There is a brief description of the recreation area, followed by a comparison table of management strategies by alternative and the zoning maps. The recreation areas are presented in order from north to south and are as follows:

- Humpback Rocks, mileposts 6–10
- James River/Otter Creek, mileposts 60–65
- Peaks of Otter, mileposts 82–91
- Roanoke Mountain, mileposts 118–122
- Smart View, milepost 155
- Rocky Knob, mileposts 166–174
- Mabry Mill, milepost 176

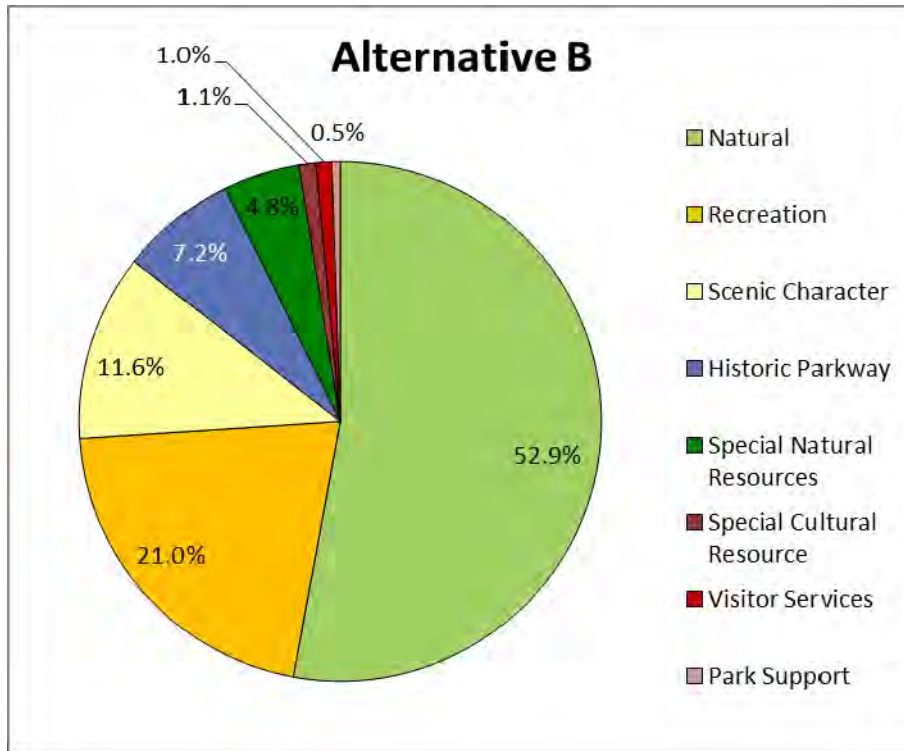
- Blue Ridge Music Center, milepost 213
- Cumberland Knob, mileposts 217–219
- Doughton Park, mileposts 236–247
- Julian Price Memorial Park, mileposts 295–300
- Linville Falls, mileposts 315–319
- Crabtree Falls, mileposts 339–340
- Craggy Gardens, mileposts 364–369
- Mt. Pisgah, mileposts 407–409

For alternatives B and C, maps with overlaid management zones are included for each recreation area. Table 6 and figures 13 and 14 compare the proportion of management zones in acres for all 15 parkway recreation areas by alternatives B and C. These acreage calculations do not include the parkway segments.

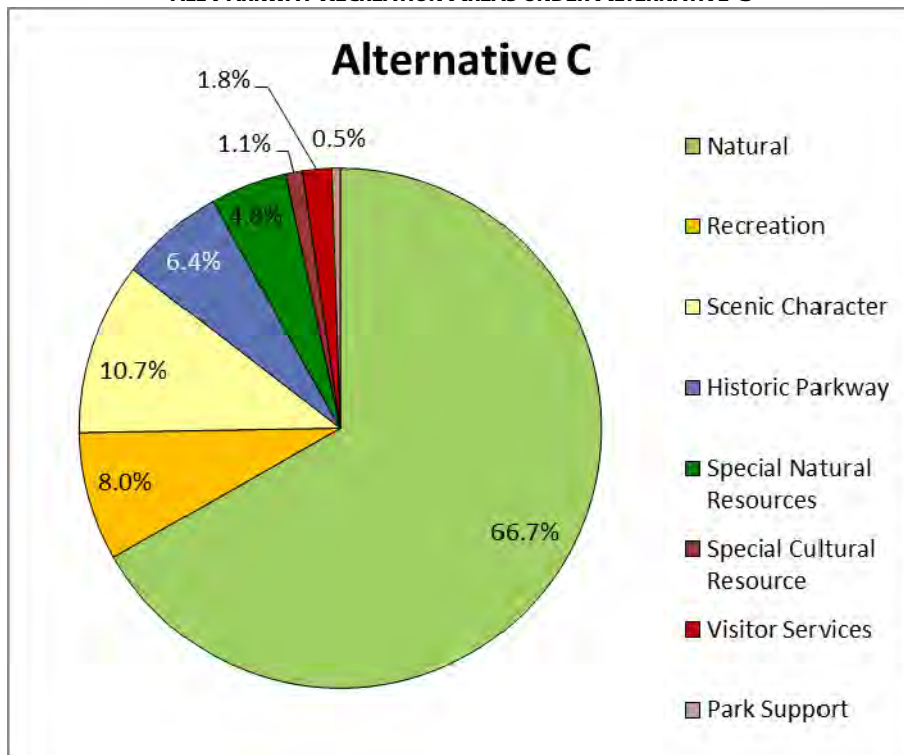
**TABLE 6. MANAGEMENT ZONES FOR PARKWAY RECREATION AREAS BY ACTION ALTERNATIVES—ACREAGE CALCULATIONS**

Class	Management Zones	Acres in this Zone	
		Alternative B	Alternative C
N	Natural	19,491	24,584
R	Recreation	7,751	2,946
SC	Scenic Character	4,277	3,952
HP	Historic Parkway	2,635	2,360
SNR	Special Natural Resources	1,750	1,755
SCR	Special Cultural Resource	388	388
VS	Visitor Services	356	662
PS	Park Support	193	193

**FIGURE 13. PROPORTION OF MANAGEMENT ZONES FOR ALL PARKWAY RECREATION AREAS UNDER ALTERNATIVE B**



**FIGURE 14. PROPORTION OF MANAGEMENT ZONES FOR ALL PARKWAY RECREATION AREAS UNDER ALTERNATIVE C**





### Humpback Rocks, Mileposts 6-10

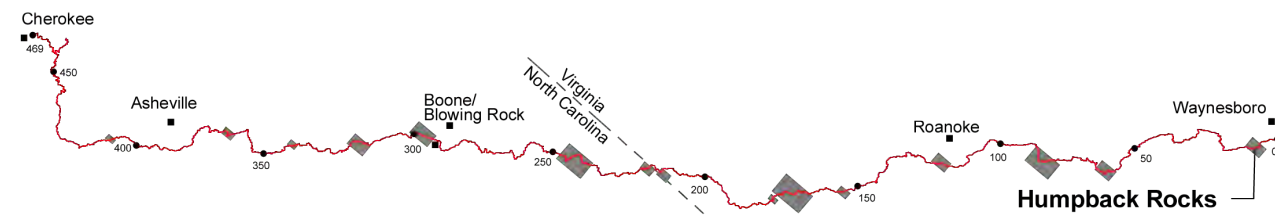
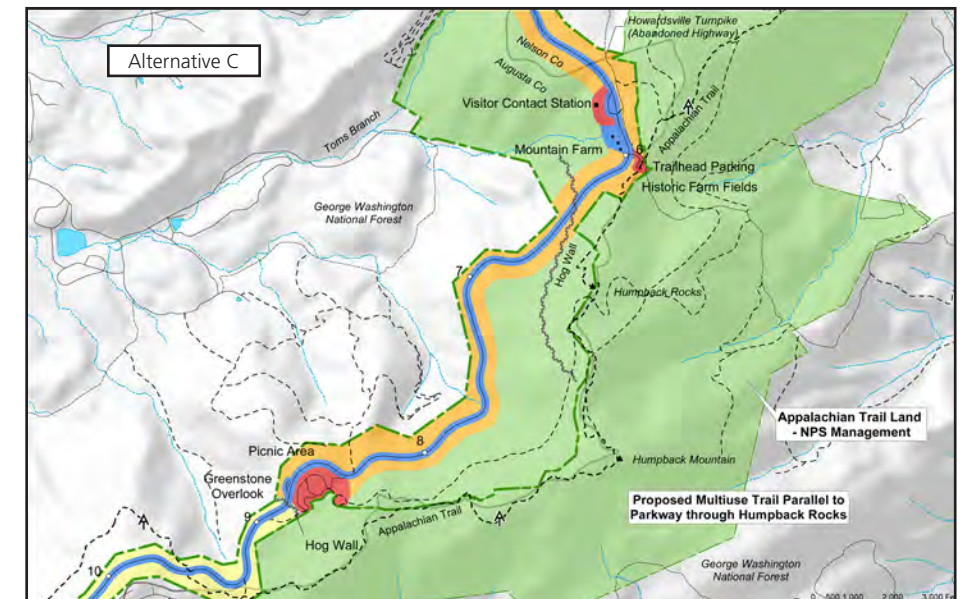
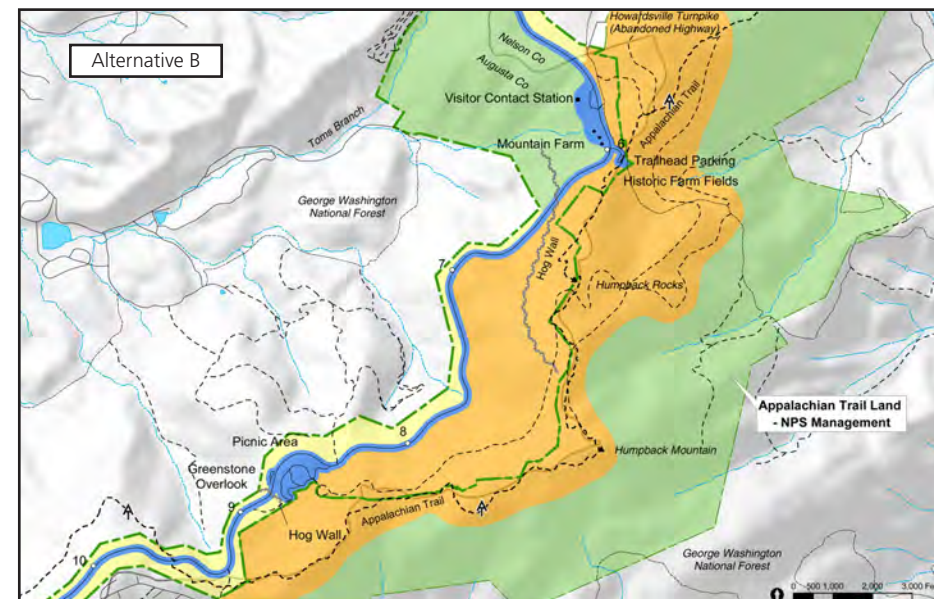
Humpback Rocks is the first major recreation area that visitors encounter traveling south from Rockfish Gap. The 3,000 acres of mostly hardwood forest include several trails, including one to the geological feature of Humpback Rocks. Visitors are introduced to the Blue Ridge Parkway experience through staff, publications, and wayside exhibits at the visitor contact station. Adjacent to the contact station is the Mountain Farm, which consists of a single-room log cabin and a series of outbuildings that represent elements of regional architecture of the 19th and early 20th centuries. These buildings were collected during the early 1950s from several locations and reassembled

at the current location. Costumed interpreters provide demonstrations and emphasize lifestyles of subsistence farmers of the late 19th century. Scattered through this area are remnants of an early farm and traces of the historic Howardsville Turnpike, which provided a transportation link between the Rockfish and South rivers. The Appalachian Trail parallels the parkway through a portion of the area to Rockfish Gap.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Retain the original management emphasis on traditional recreational pursuits. Expect visitors to have moderate to high frequency of contact with others.	Retain the original management emphasis on traditional recreational pursuits; allow for and accommodate future increases in demand for these activities. Expect visitors to have moderate to high frequency of contact with others.	Outside of the visitor service areas, manage for low-level visitor use and expect visitors to have minimal interaction with others.
The historic Howardsville Turnpike is unmarked with little interpretation for visitors.	Mark the Howardsville Turnpike route and improve interpretation for visitors.	Same as alternative B.
This area is part of the original master plan as a recreation and destination area. The current size of the picnic area, visitor contact station, and trailhead parking does not allow accommodation of higher use levels and more interpretive programs. Maintain the current facilities and design.	Keep visitor facilities consistent with the historic design; however, improve existing trails and potentially develop more trails to accommodate future increases in use levels and programs.	Increase the capacity of the visitor contact station to better accommodate current and future use levels. Link site trails with U.S. Forest Service trails and Sherando Lake facilities. Develop a part of the multiuse trail discussed under the Ridge segment, if feasible, through the Humpback Rocks recreation area to enhance opportunities for pedestrians and bicyclists to recreate and travel safely through the area with minimal interaction with automobile traffic.
Continue to work in partnership with the Appalachian Trail to establish a route that avoids sensitive resource areas. This may entail rerouting trail sections or repairing trail treads.	Same as alternative A.	Same as alternative A.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations to provide services for a nine-month visitor season.	Expand operations to provide services for a 12-month visitor season.



View of Parkway from Humpback Rocks



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

Parkway Lands  
 Recreation Trails  
Note: Parkway land boundary is based on the best available information.

Humpback Rocks  
 Mileposts 6-10  
 Blue Ridge Parkway  
 North Carolina/Virginia

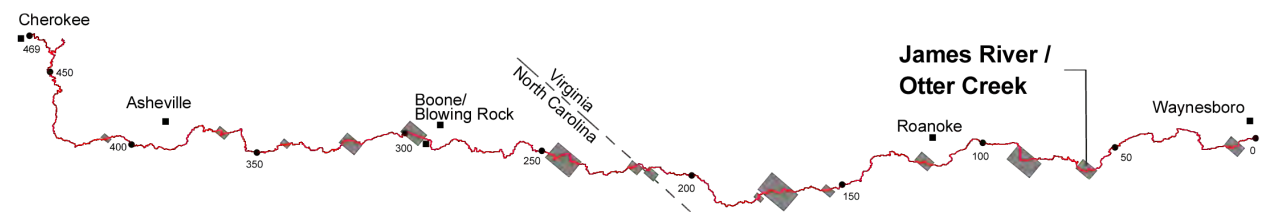
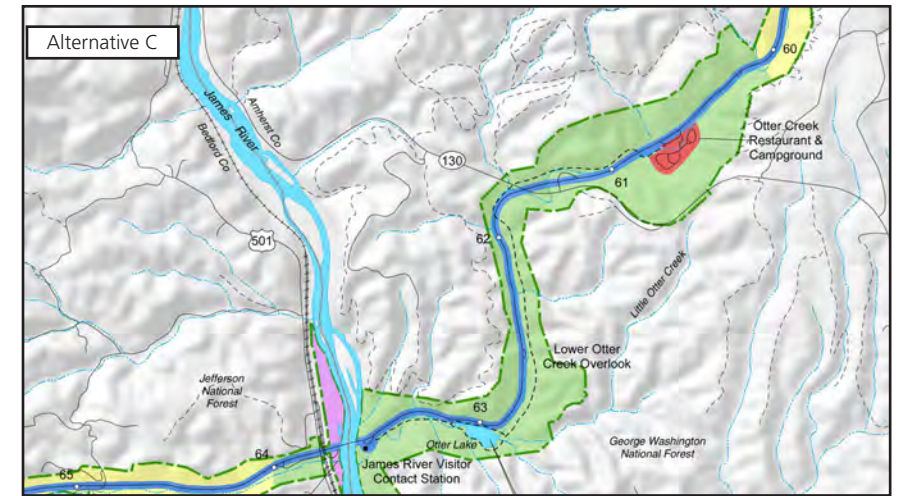
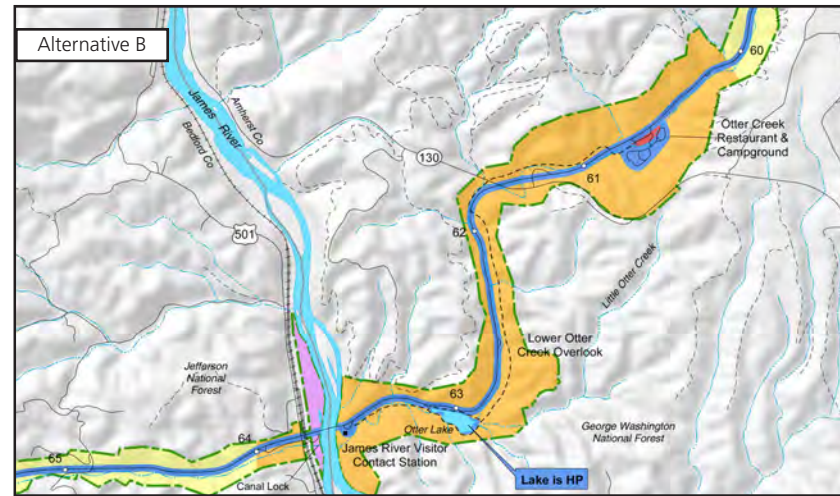
**James River/Otter Creek, Mileposts 60-65**

The James River/Otter Creek recreation area offers hiking, camping, picnicking, seasonal concessions dining, and fishing. An accessible fishing pier on Otter Lake provides opportunities for visitors with disabilities to fish. A bridge and pedestrian walkway across James River connects the seasonally open visitor contact station with the restored Battery Creek canal lock.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Retain the original management emphasis on traditional recreational pursuits.	Retain the original management emphasis on traditional recreational pursuits; allow for and accommodate future increases in demand for these activities. Expand operations to provide services for a nine-month visitor season.	Outside of the visitor service areas, manage for low-level visitor use and expect visitors to have minimal interaction with others.
Retain the existing, underused contact station (originally an open-air interpretive shelter and later enclosed) and its exhibits that relate the stories of canal building and mountain transportation.	Convert function of visitor contact station to a wayside shelter for the Otter Creek Trail, but retain historic appearance.	Same as alternative B.
Continue to periodically dredge the lake, which is part of the historic design, to remove silt and maintain lake qualities.	Same as alternative A.	Allow lake to return to its natural wetland condition (remove the dam and spillway, discontinue dredging).
Continue to offer seasonal concession food service at Otter Creek if economically feasible. If no longer economically viable, it would be closed and the structure would be adaptively used or removed.	Continue to find ways to offer seasonal concession food service at Otter Creek. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate.	As in alternative A, continue seasonal concession food service at Otter Creek if economically feasible. If no longer economically viable, develop information directing visitors to the private sector in communities outside the parkway for food services
Continue current management of this area; a part of the original master plan as a recreation and destination area	Realign trail between restaurant and lake and provide additional trail links to accommodate higher use levels, with the possibility of expanding trail for future multiuse.	Same as alternative B.
Retain the original campground design.	Allow for upgrades to the campground as described below.	Allow for upgrades and redesigns to the campground as described below.
Continue to implement future repairs and rehabilitations focused on those needed to meet backlog maintenance needs.	Same as alternative A.	Same as alternative A.
Upgrade certain comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.	Same as alternative B.
Maintain existing tent sites, including many small sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents.	Same as alternative B.
Maintain existing recreational vehicle camping without water and electrical hookups at the campgrounds.	Upgrade existing RV sites to provide water and electrical hookups.	Same as alternative B.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Same as alternative A.	Improve RV access to a portion of the campground. Upgrades would include widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations for a nine-month visitor season.	Same as alternative B.



View of James River



- Special Natural Resource (SNR)
- Historic Parkway (HP)
- Natural (N)
- Scenic Character (SC)
- Recreation (R)
- Special Cultural Resource (SCR)
- Visitor Services (VS)
- Park Support (PS)

**Parkway Lands**  
**Recreation Trails**

Note: Parkway land boundary is based on the best available information.

**James River/  
 Otter Creek  
 Mileposts 60-65**

Blue Ridge Parkway  
 North Carolina/Virginia

### Peaks of Otter, Mileposts 82-91

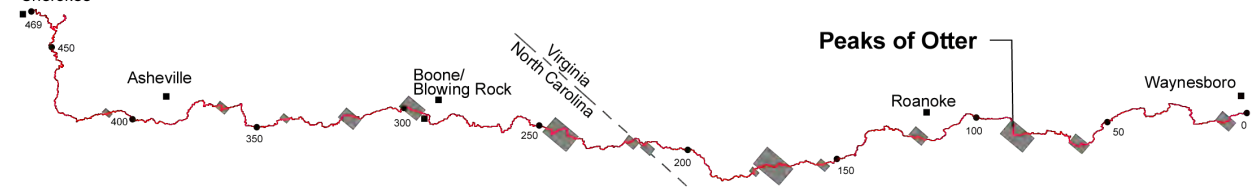
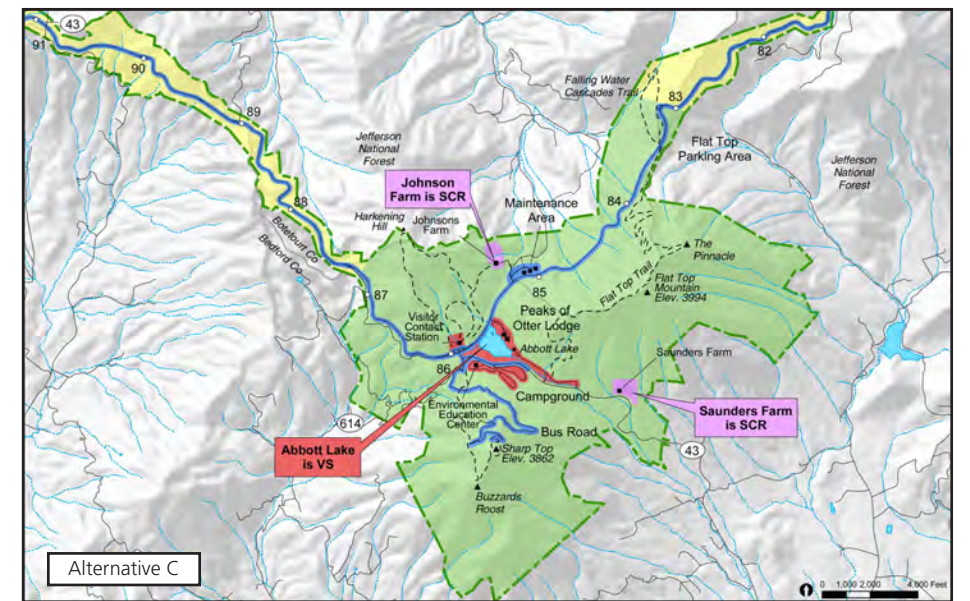
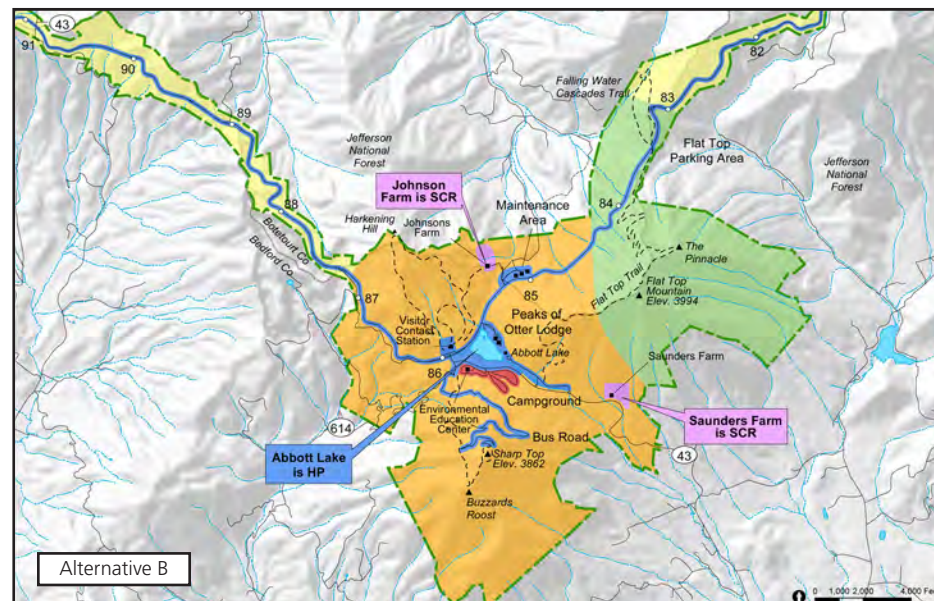
The Peaks of Otter recreation area includes about 4,100 acres of mostly hardwood forest. It is nestled within the triangle formed by Sharp Top Mountain, Flat Top Mountain, and Harkening Hill. Abbott Lake, created by parkway designers, provides the aesthetic focal point. The area is home to rare plants and animal species and it is a prehistoric site of human occupation. In the 18th and 19th centuries, the cooler climate and mountain scenery began to attract vacationers and a small community developed to serve the needs of these tourists. The Johnson family and Polly Woods Ordinary are both intricately connected with tourism development. The Peaks community also included

African Americans, including the Saunders family, whose home remains as visible ruins near the picnic area. Visitor amenities include the Peaks restaurant and lodge (open year-round), a campground, picnic area, general store, shuttle bus to Sharp Top Mountain, visitor contact station, environmental education center, and extensive trail system. The Peaks lodge and campground are part of the original historic design. These facilities are outdated, do not meet the needs of many visitors, and there are few off-parkway lodge or camping options nearby.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Retain the original management emphasis on traditional recreational pursuits.	Retain the original management emphasis on traditional recreational pursuits; for much of this site, allow for and accommodate future increases in demand for these activities.	Outside of the visitor service areas, manage for low-level visitor use and expect visitors to have minimal interaction with others.
The historic Saunders farm is currently managed as a landscape feature. The farm is not structurally stable. The Johnson farm is also currently managed as a landscape feature. The structures are stable, but the cultural landscape has lost integrity.	Rehabilitate Saunders farm and the landscape at Johnson farm. Interpret both sites for visitors.	Stabilize Saunders farm and rehabilitate the landscape at Johnson farm. Interpret both sites for visitors.
Continue to offer concession food and lodging service at Peaks of Otter if economically feasible. If no longer economically viable, services would be eliminated and the structure would be adaptively used or removed.	Continue to find ways to provide concession food and lodging services at Peaks of Otter. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate.	As in alternative A, the park would continue to offer concession food and lodging services at Peaks of Otter if economically feasible. If no longer economically viable, the park would look to the private sector in communities outside the park to provide food services.
Retain the original campground design.	Allow for upgrades to the campground as described below.	Allow for upgrades and redesigns to the campground as described below.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Same as alternative A.	Same as alternative A.
Upgrade certain comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.	Same as alternative B.
Maintain existing tent sites, including many small sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents.	Same as alternative B.
Maintain existing recreational vehicle camping without water and electrical hookups at the campgrounds.	Upgrade existing RV sites with water and electrical hookups.	Same as alternative B.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Improve RV access to a portion of the campground. Upgrades would include widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces.	Same as alternative B.
Continue to only offer tent and RV camping within the Peaks of Otter campground.	Same as alternative A.	Convert a portion of campsites to rental cabins within the Peaks of Otter campground.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations to provide services for a nine-month visitor season.	Expand operations to provide services for a 12-month visitor season.



View of Abbott Lake and Peaks Lodge from Sharp Top Cherokee



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

Parkway Lands  
Recreation Trails  
Note: Parkway land boundary is based on the best available information.

Peaks of Otter  
Mileposts 82-91  
Blue Ridge Parkway  
North Carolina/Virginia

### Roanoke Mountain, Mileposts 118-122

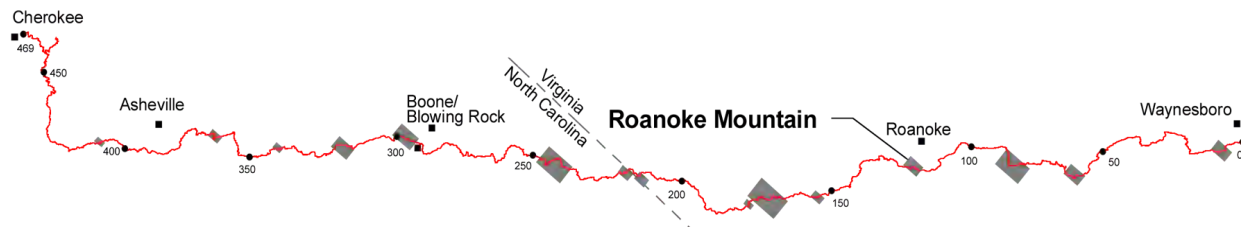
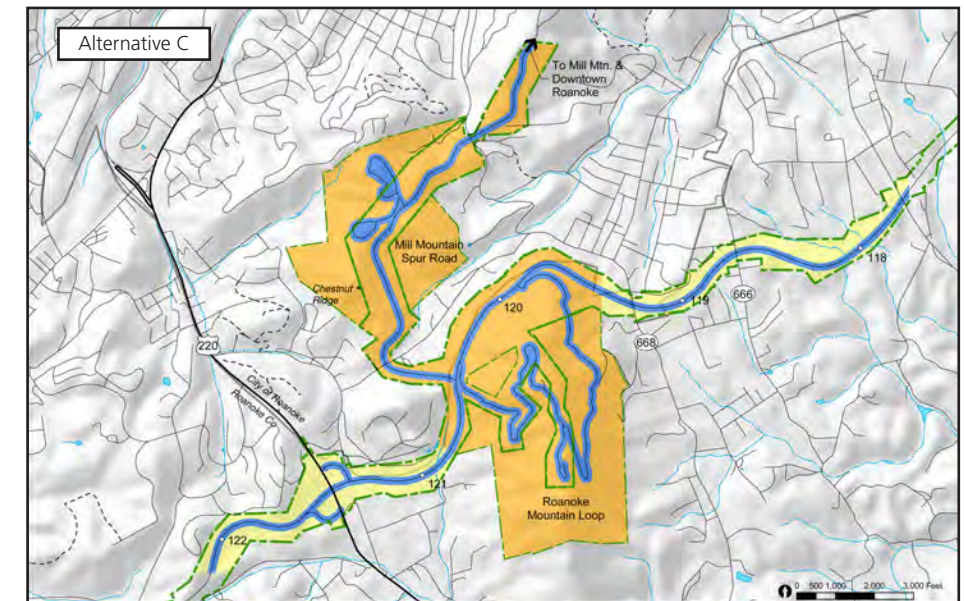
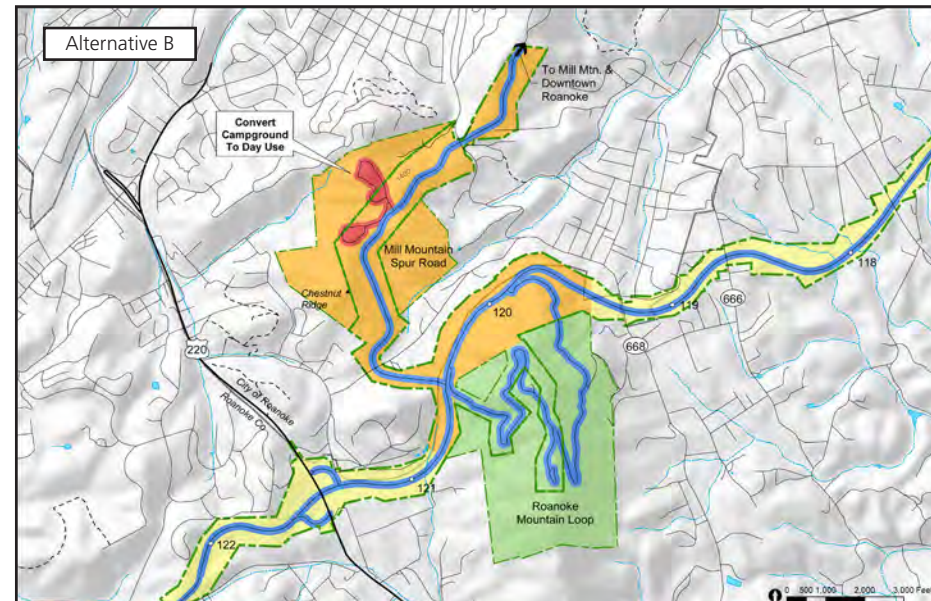
A loop road to the top of Roanoke Mountain is a popular attraction with dramatic overlooks of the city and the Roanoke Valley. Hang glider enthusiasts use the summit by permit. Mill Mountain Road provides access to a parkway campground, trails, a local zoo, and city overlooks. There are hiking and fishing opportunities along the Roanoke River and hiking near the campground. The area also offers horseback riding. Adjacent city and county of

Roanoke visitor amenities, such as the zoo, generate demand for more day use amenities in parkway-managed areas. The campground is underused, in part because its valley location makes it the hottest of the parkway campgrounds during the summer.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
National Park Service manages the Roanoke Mountain loop road and Mill Mountain spur road areas; however, the city of Roanoke owns much of the land and leases it to the parkway.	Establish an agreement with the city of Roanoke for partnership management of the Mill Mountain spur road area.	Continue management of the Roanoke Mountain and Mill Mountain spur road areas under lease agreement with the city of Roanoke.
Retain the original campground design, even though it is underused — probably because its valley location makes it the hottest of the parkway campgrounds during the summer.	Convert the entire Roanoke Mountain campground to a day use recreation area, including picnic and trail staging facilities. Collaborate with local communities and other park partners to consider innovative ways to effectively manage Roanoke Mountain over the interim of this conversion from a campground to a day use area. Any new trail developments would be compatible with the Roanoke Trail Plan.	Allow for upgrades to the campground as described below.
Continue to implement future repairs and rehabilitations focused on those needed to meet backlog maintenance needs.		Same as alternative A.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.		Enlarge selected tent sites to better accommodate family-sized tents.
Upgrade certain campground comfort stations to provide showers and universal accessibility.		Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.
Continue to provide RV camping without water and electrical hookups.		Upgrade existing RV sites with water and electrical hookups.
Continue to provide limited access to accommodate larger RVs (i.e., narrow roads, tight turns, and small parking spaces).		Same as alternative A.



View from Roanoke Mountain



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

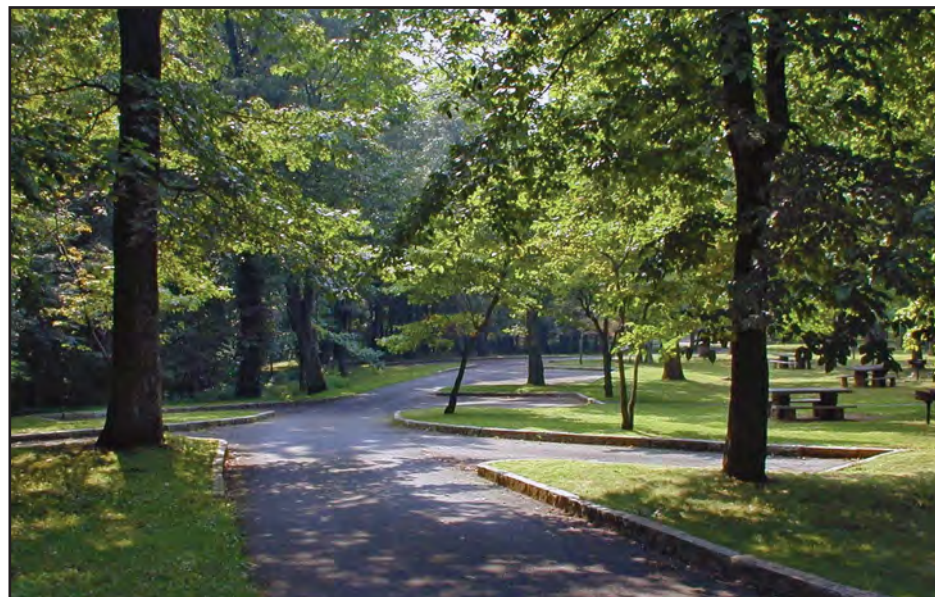
**Parkway Lands**  
**Recreation Trails**  
Note: Parkway land boundary is based on the best available information.

**Roanoke Mountain**  
**Mileposts 118-122**  
 Blue Ridge Parkway  
 North Carolina/Virginia

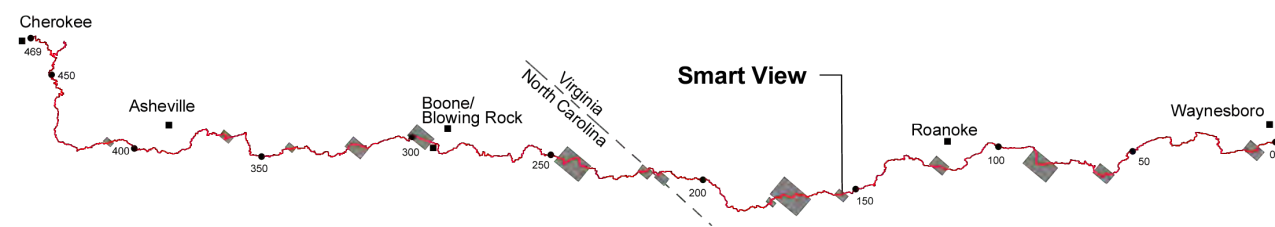
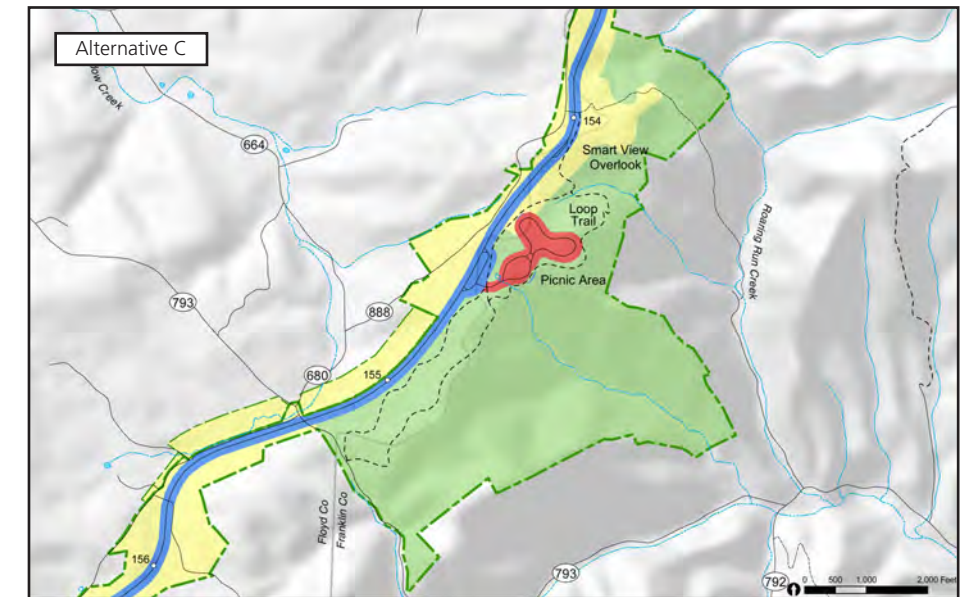
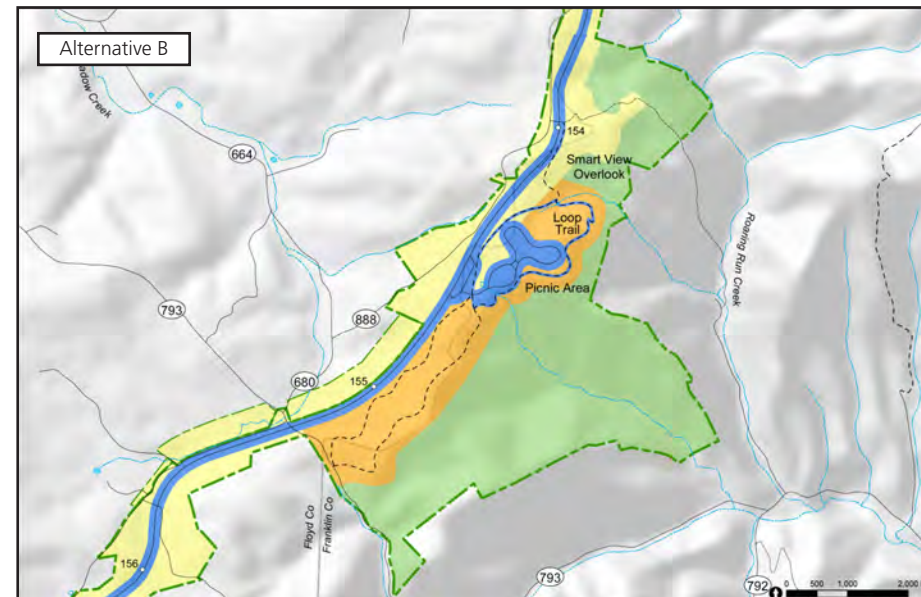
## Smart View, Milepost 155

This recreation area encompasses about 700 acres. The trails, group picnic shelters, and restroom facilities provide opportunities for visitors to participate in a variety of day use recreational activities.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Retain the original management emphasis on traditional recreational pursuits. Retain existing facilities and infrastructure.	Retain the original management emphasis on traditional recreational pursuits, allowing for and accommodating future increases in demand for these activities, including additional trail infrastructure.	Outside of the visitor service areas, manage for low-level visitor use and expect visitors to have minimal interaction with others. Accommodate existing and anticipated future demand for picnicking with possible improvements to existing picnic area.
Retain the existing qualities of the pastoral agricultural landscape.	Further protect the pastoral landscape through possible acquisition of lands or conservation easements.	Same as alternative B.



Smart View Picnic Area



- Special Natural Resource (SNR)
- Historic Parkway (HP)
- Natural (N)
- Scenic Character (SC)
- Recreation (R)
- Special Cultural Resource (SCR)
- Visitor Services (VS)
- Park Support (PS)

**Parkway Lands  
Recreation Trails**

Note: Parkway land boundary is based on the best available information.

**Smart View  
Milepost 155**  
 Blue Ridge Parkway  
 North Carolina/Virginia

## Rocky Knob, Mileposts 166-174

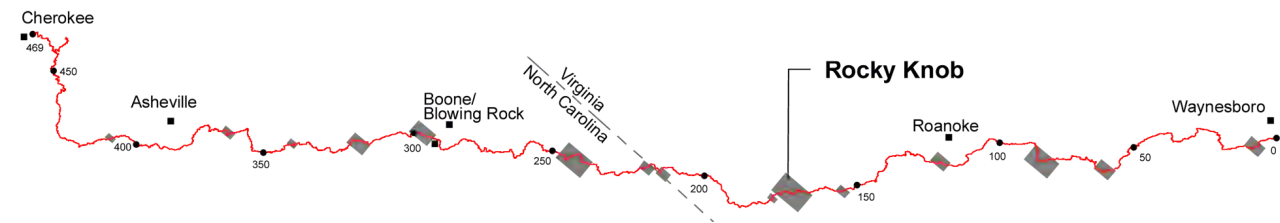
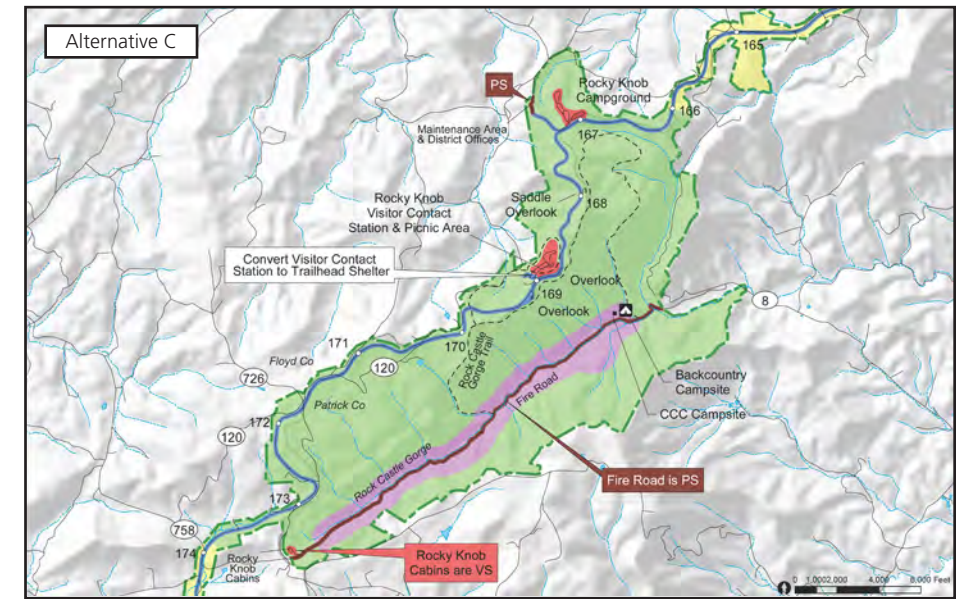
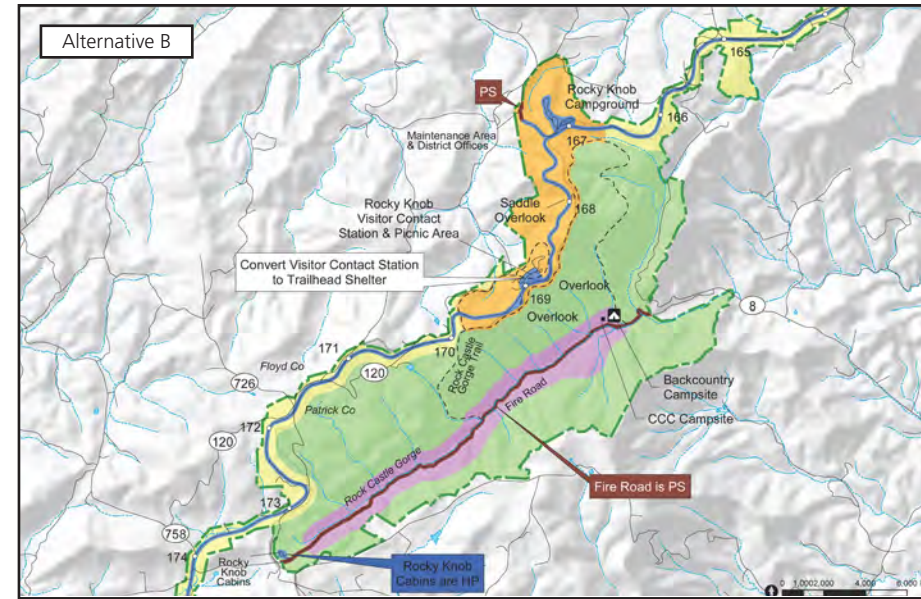
The Rocky Knob recreation area, including Rockcastle Gorge, has more than 3,500 acres of mostly rugged, forested terrain. There are many overlooks and vistas along the parkway of the dramatic Rockcastle Gorge, making it an important scenic focal point. Near the parkway are a campground, picnic area, and a visitor contact station that is housed in a converted historic gas station. The gas station structure is an excellent example of original parkway design; however, as a contact station, this structure is small and inadequately serves the visitor. An extensive trail

system in Rockcastle Gorge provides excellent hiking and access to backcountry and cabin camping opportunities. In the gorge are remnants of an abandoned mountain community. The National Park Service owns and administers the entire watershed of Rockcastle Gorge, which is home to a number of rare plants and provides opportunities for natural resource monitoring and comparative study.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Manage the historic gas station structure to retain the historic architectural character and visitor contact function.	Convert visitor contact station to trailhead shelter when a visitor contact facility is established at Mabry Mill.	Same as alternative B.
The picnic area is on the site of an original campground. The size of the picnic area has grown over time. It receives moderate use from primarily the local community.	Reduce the size of the picnic area to the historic footprint of the old campground.	Accommodate existing and anticipated future demand for picnicking with possible improvements to existing picnic area.
Continue to provide guided walks to the historic Rockcastle Gorge settlement sites.	Same as alternative A.	Manage historic settlement sites as a cultural landscape. Provide interpretive waysides, self-guiding trails, and guided walks.
Combined, Rocky Knob and Rockcastle Gorge have over 11 miles of hiking trails and fire road.	Upgrade Gorge trail system and enhance backcountry camping area. Provide trailhead staging and improve parking near backcountry campsite.	In proximity of the historic settlement sites, including the fire road, allow hiking only.
Continue to operate the Rocky Knob cabins as a concession if economically feasible. If services are discontinued, the structures would be adaptively used or removed.	Continue to find ways to provide cabin concession services. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate. Retain historic character if possible.	Same as alternative A. If cabin lodging services are discontinued, the parkway would look to the private sector in communities outside the parkway to provide cabin lodging services.
Retain the original campground design.	Allow for upgrades to the campground as described below.	Allow for upgrades and redesigns to the campground as described below.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Same as alternative A.	Same as alternative A.
Upgrade certain comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.	Same as alternative B.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents.	Same as alternative B.
Continue to provide RV camping without water and electrical hookups.	Upgrade existing RV sites with water and electrical hookups.	Same as alternative B.
Continue to provide limited access that does not adequately accommodate larger RVs within the seven campgrounds that offer RV camping (i.e., narrow roads, tight turns, and small parking spaces).	Same as alternative A.	Improve RV access to a portion of the campground. Upgrades would include widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces.



Rocky Knob Visitor Contact Station



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

**Parkway Lands  
Recreation Trails**

Note: Parkway land boundary is based on the best available information.

**Rocky Knob  
Mileposts 166-174**

Blue Ridge Parkway  
North Carolina/Virginia

### Mabry Mill, Milepost 176

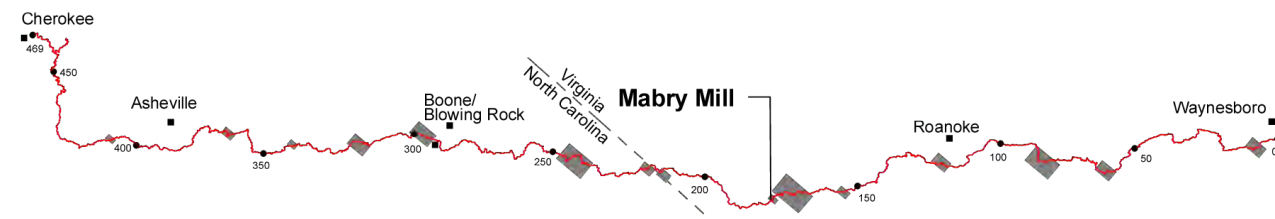
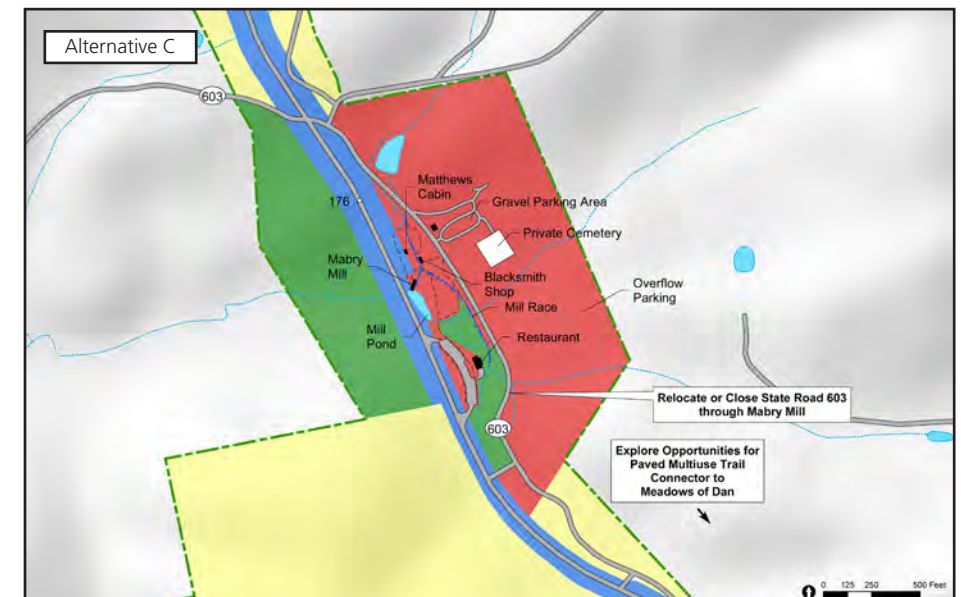
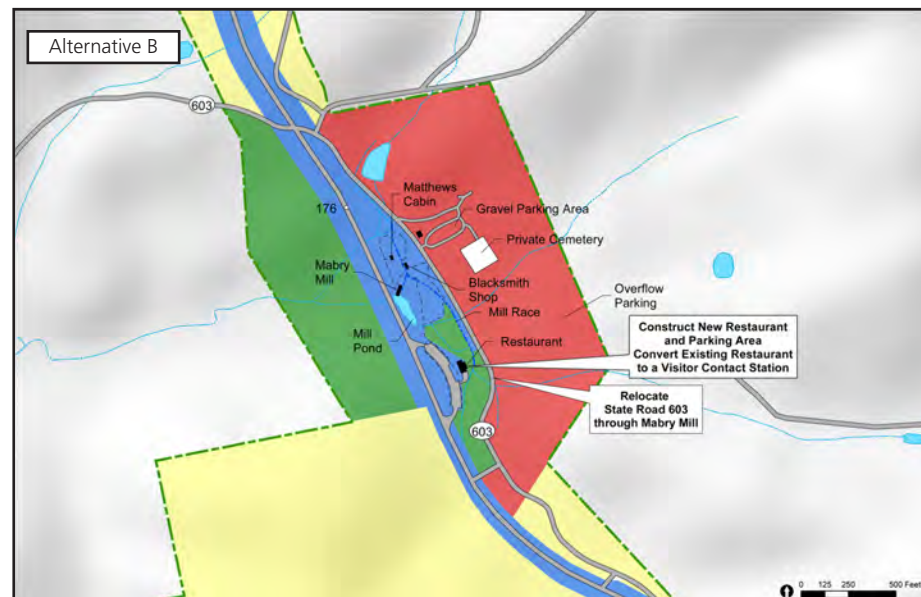
The Mabry Mill complex is one of the most picturesque and popular cultural sites on the parkway. It is an outdoor museum with an eclectic assemblage of buildings and exhibits that display Appalachian mountain industry and lifestyles. The mill was built around 1908 by Ed Mabry and operated until the mid-1930s. The reflecting pond was added later by the National Park Service. In addition to the mill and Mabry's blacksmith shop, parkway designers added a number of other outdoor exhibits, including a sorghum cooker and shed, moonshine still, and farm implements. And Mabry's house, a wood-frame house, was apparently too modern for the designers and was

replaced with the Mathews log cabin. Site personnel occasionally provide cultural demonstrations in the house and on the grounds. The Mabry Mill site, including its restaurant, is a very popular and traditional destination for many visitors, especially on weekends when pancake breakfasts and live music are big draws.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Continue to manage the Mabry Mill area—its buildings, raceways, and walkways—as an outdoor museum consistent with the experience intended by the parkway designers.	Same as alternative A.	Same as alternative A.
Continue to operate the Mabry Mill restaurant as a concession if economically feasible. If services are discontinued, the structure would be adaptively used as a visitor contact station.	Continue to provide concession food services. Strategies might include making upgrades to existing infrastructure or constructing a new restaurant elsewhere on site if appropriate.	Same as alternative A. Look to the private sector in communities outside the parkway to provide restaurant services.
Continue to offer existing visitor information and interpretive services about mountain industry.	Improve interpretive media and provide more diverse presentations of mountain industry. Pursue development of a visitor contact station.	Improve interpretive media and provide more diverse presentations of mountain industry. If restaurant services were discontinued, convert the structure to a visitor contact station.
Pedestrian access and circulation around the site are inefficient.	Within the Historic Parkway zone improve quality of existing trails and upgrade site signs and wayside exhibits. For remainder of site, redesign pedestrian circulation, signs, and wayside exhibits.	Redesign pedestrian circulation, signs, and wayside exhibits throughout the site.
Site is bisected by a state road that visitors must cross to access parking.	Relocate the state road crossing that bisects Mabry Mill.	Same as alternative B.
Meadows of Dan is a small gateway community and important parkway access point near Mabry Mill.	Same as alternative A.	Same as alternative A. Also, explore opportunities for developing a multiuse trail between Mabry Mill and Meadows of Dan.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations to provide services for a nine-month visitor season.	Expand operations to provide services for a 12-month visitor season.



Entrance to Mabry Mill Complex



- Special Natural Resource (SNR)
- Historic Parkway (HP)
- Natural (N)
- Scenic Character (SC)
- Recreation (R)
- Special Cultural Resource (SCR)
- Visitor Services (VS)
- Park Support (PS)

Parkway Lands  
Recreation Trails

Note: Parkway land boundary is based on the best available information.

Mabry Mill  
Milepost 176  
Blue Ridge Parkway  
North Carolina/Virginia

### Blue Ridge Music Center, Milepost 213

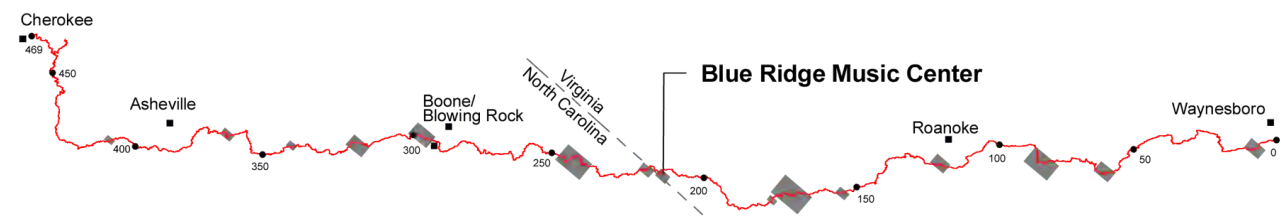
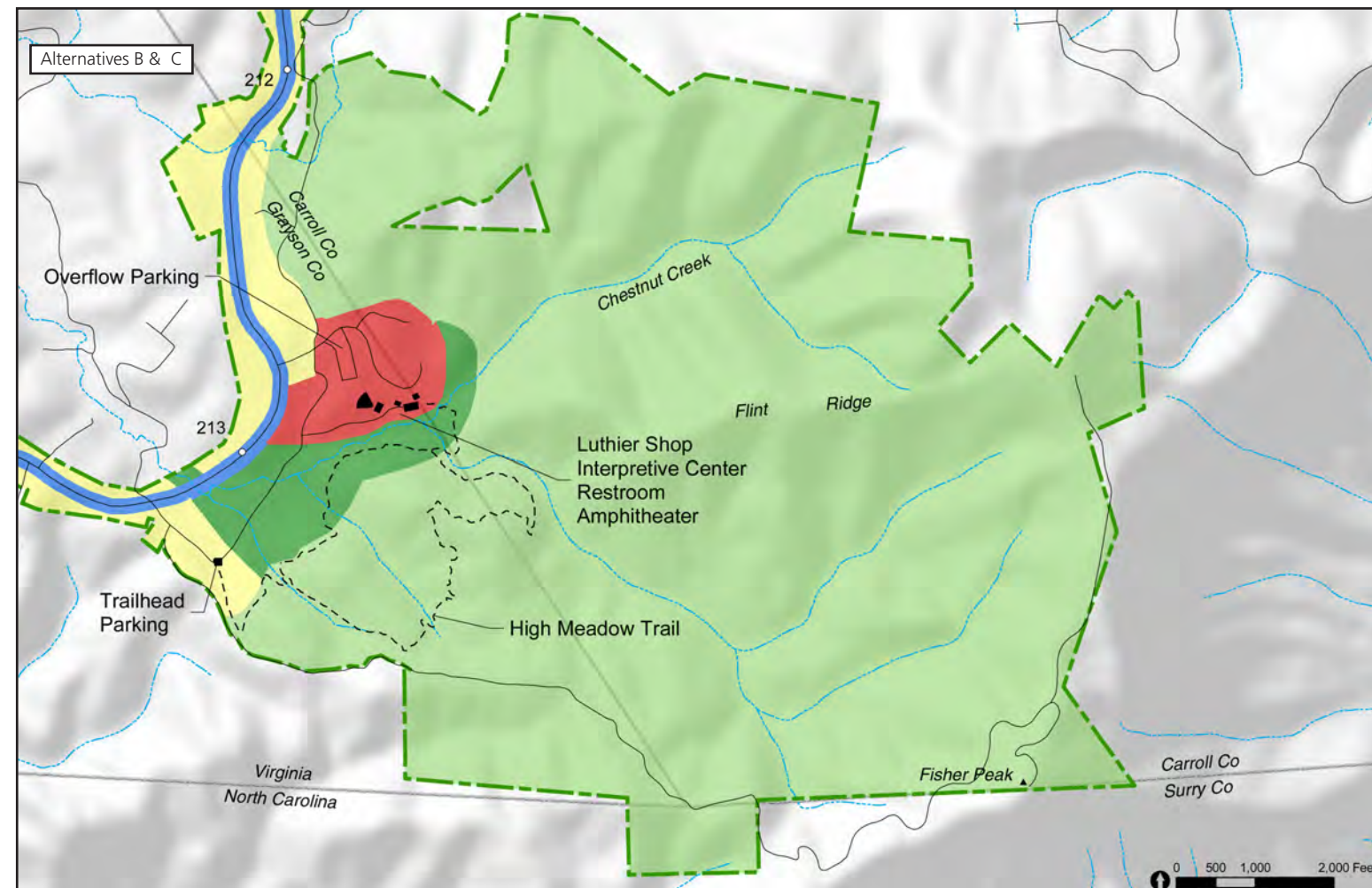
The Blue Ridge Music Center recreation area, one of the newest along the parkway, covers more than 1,700 acres of meadow and forest landscape, including part of Fisher Peak Mountain. Located just north of the North Carolina state line in Virginia's Grayson and Carroll counties, the music center is in the heart of the Blue Ridge old-time and string band music region. Much of this traditional Appalachian music was commercially recorded in the 1920s and 1930s but has roots going back to 19th century European and African influences. The music center complex, operated in partnership with the National Council for the Traditional Arts, provides opportunities to learn about

this music in the interpretive center and hear it performed at an amphitheater at a series of summer concerts. The music center is one of the major stops along Virginia's Heritage Music Trail, the Crooked Road. This recently added site will likely see considerable growth in visitation as the public becomes more aware of its amenities and the number and diversity of cultural demonstrations, music, and other events offered increase over time.

ALTERNATIVE A	ALTERNATIVES B & C (NPS Preferred)
Continue to maintain the grounds and infrastructure; provide logistical support for events; and provide seasonal onsite visitor information and interpretive services.	Expand information and orientation capabilities through partnership and park staff at the Blue Ridge Music Center. Expand the parkway's active participation in regional heritage tourism projects.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations for a nine-month visitor season.



Blue Ridge Music Center Amphitheater



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

 Parkway Lands  
Recreation Trails  
Note: Parkway land boundary is based on the best available information.

Blue Ridge Music Center  
Milepost 213  
Blue Ridge Parkway  
North Carolina/Virginia



### Cumberland Knob, Mileposts 217-219

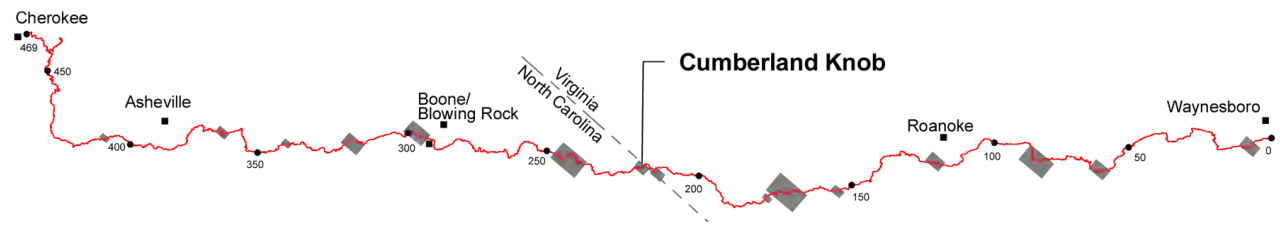
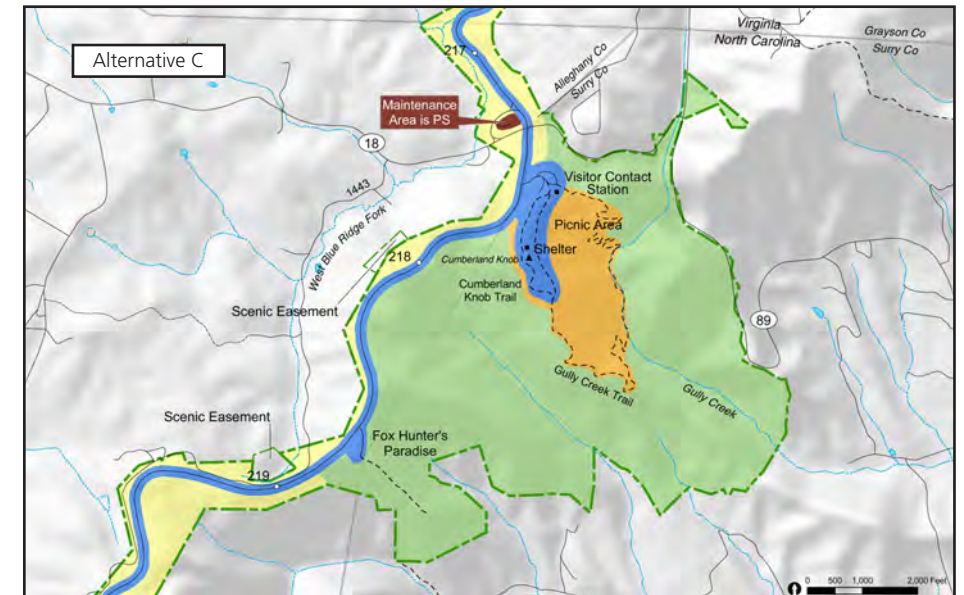
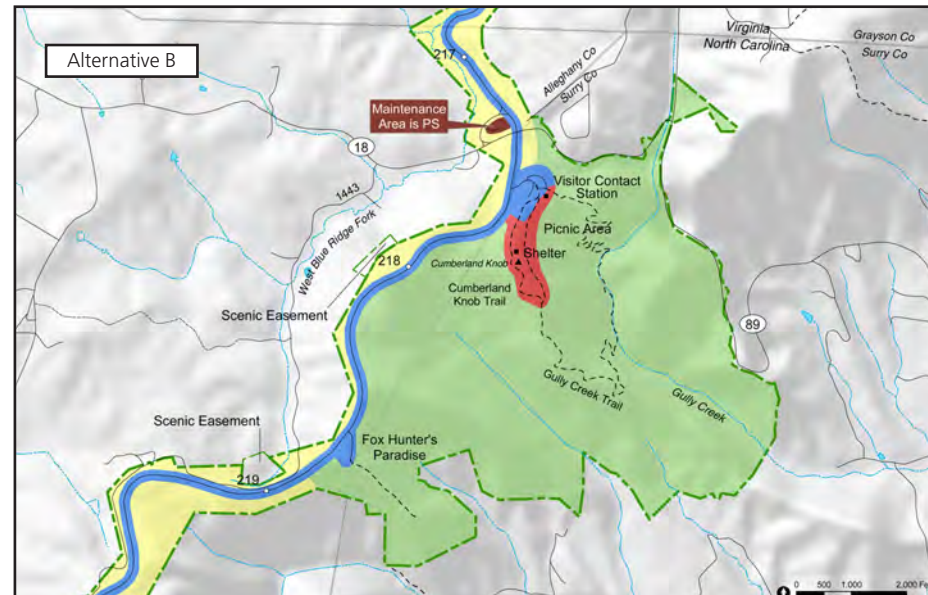
The 2,000-acre Cumberland Knob recreational area is the site where construction of the Blue Ridge Parkway began on September 11, 1935. The recreational area opened in 1937. The visitor contact station, which opened in 1942, is an outstanding example of rustic architecture. This day use area includes mostly forested mountainsides, a popular

picnic area, and hiking trails. The parkway closed the visitor contact station in 2005, when the Blue Ridge Music Center opened.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Retain structures, facilities, trails, and infrastructure at current levels. Continue to keep the visitor contact station closed.	Restore the visitor contact station to its original historical appearance and install interior and exterior exhibits that present the story of parkway construction and early use.  Increase visitor services and enhance the visitor experience (e.g., staff visitor contact station and increase ranger-led programs).	Same as alternative B.
Continue to manage as a day use picnic area with minimal visitor services.	Within the visitor services area, accommodate future increases in demand for use of picnic area as a day use area and a location for onsite Parks-as-Classrooms programs for schools from the surrounding counties, including additional trail and picnic infrastructure and outdoor program shelters.	Retain emphasis on traditional recreational activities, allowing for and accommodating future increases in demand for these activities, including additional trail and picnic infrastructure.



Cumberland Knob Business Contact Station (Currently Closed)



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

  
 Parkway Lands  
 Recreation Trails  
Note: Parkway land boundary is based on the best available information.

Cumberland Knob  
 Mileposts 217-219  
 Blue Ridge Parkway  
 North Carolina/Virginia

**Doughton Park, Mileposts 236-247**

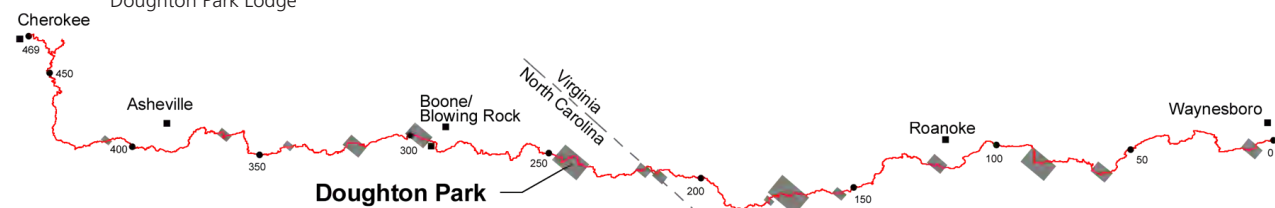
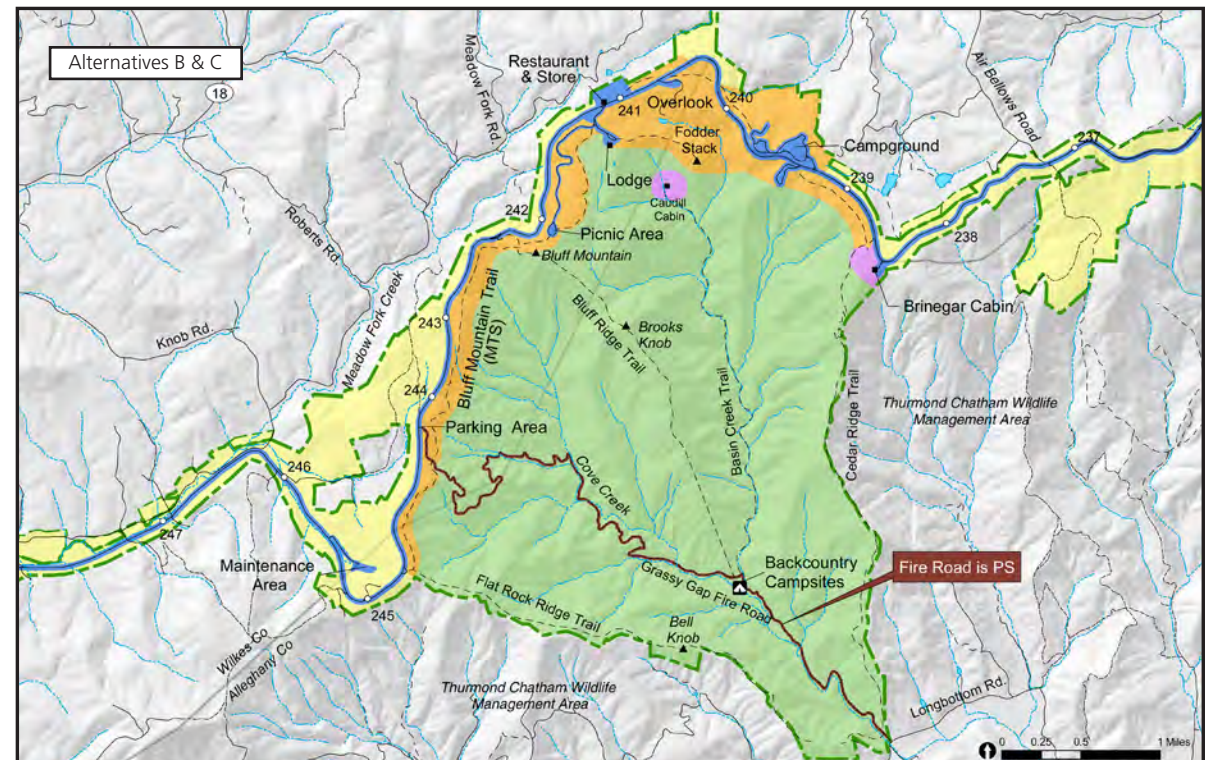
This recreation area of more than 5,000 acres contains the entire watershed for Basin Cove. It is a fairly isolated site and has a very rugged backcountry. It is contiguous with the Thurman Chatham Game Lands and Stone Mountain State Park. Originally called the Bluffs, this area offers a range of concession services, including a 24-room lodge, restaurant with craft sales, and store. There is no visitor contact station. This area has one of the parkway's larger campgrounds, a popular picnic area, and more than 30 miles of backcountry hiking trails that access Basin Cove.

The cove is popular for fly-fishing, horseback riding (Grassy Gap fire road), and backcountry camping. In the early 1900s, the Basin Cove area was home to a small community, but in 1916 a devastating flood forced many people to leave. Interpretive programs are offered at Brinegar Cabin, which is listed on the National Register of Historic Places.

ALTERNATIVE A	ALTERNATIVES B & C (NPS Preferred)
The area is attractive for recreational trail use and there are unmet opportunities to better accommodate horse use.	Designate mixed-use trails for horses and hiking. Construct trailhead parking, accommodate horse trailers, and provide equestrian backcountry campsites at trail junction. Upgrade popular picnic area to better accommodate existing and future use.
Continue to offer concession lodging and food service at Bluffs Lodge and coffee shop if economically feasible. Should these services be eliminated, the structures would be adaptively used or removed. For example, there is a need for visitor information in this area and one of the structures could be adapted for that activity.	Continue to provide concession services at Doughton, including Bluffs Lodge and coffee shop. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate.
The landscape at Brinegar Cabin has evolved from its historical appearance.	Manage the fields at Brinegar Cabin to replicate the historic landscape.
Retain the original campground design.	Allow for upgrades to the campground as described below.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Same as alternative A.
Upgrade certain campground comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents. Convert some tent sites to RV sites.
Continue to provide RV camping without water and electrical hookups.	Upgrade existing RV sites with water and electrical hookups.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Same as alternative A.



Doughton Park Lodge



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)

- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

 Parkway Lands  
Recreation Trails  
Note: Parkway land boundary is based on the best available information.

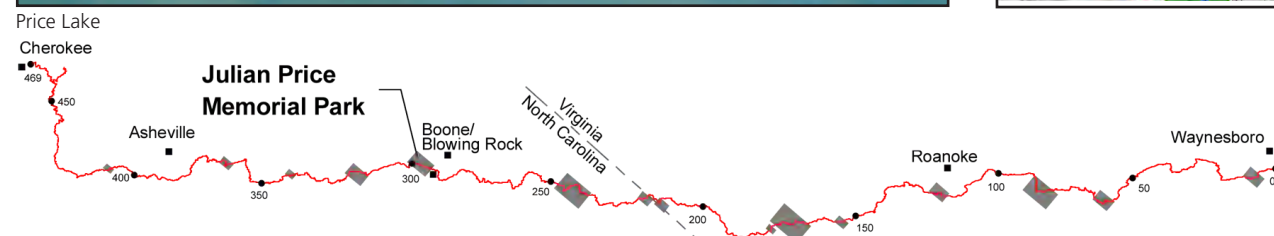
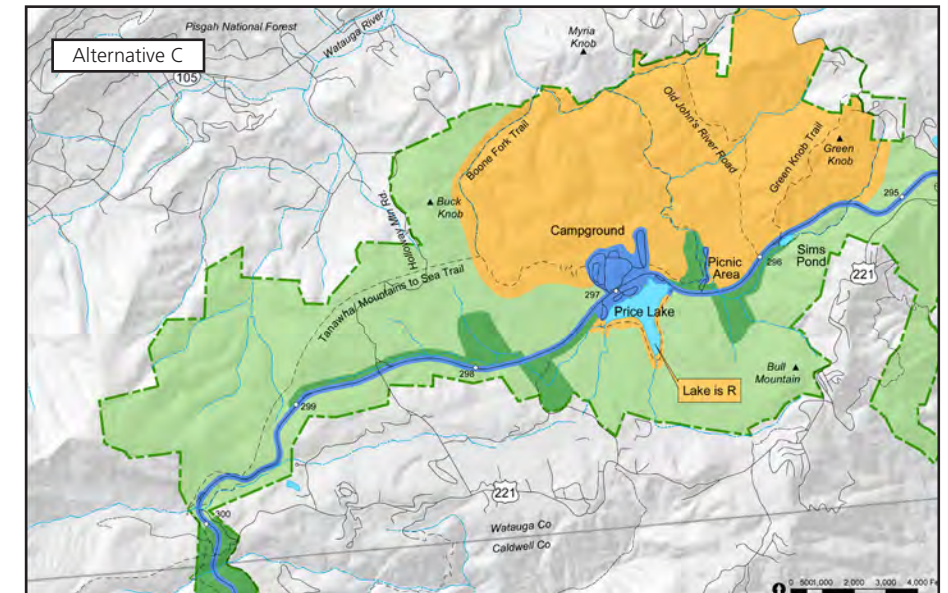
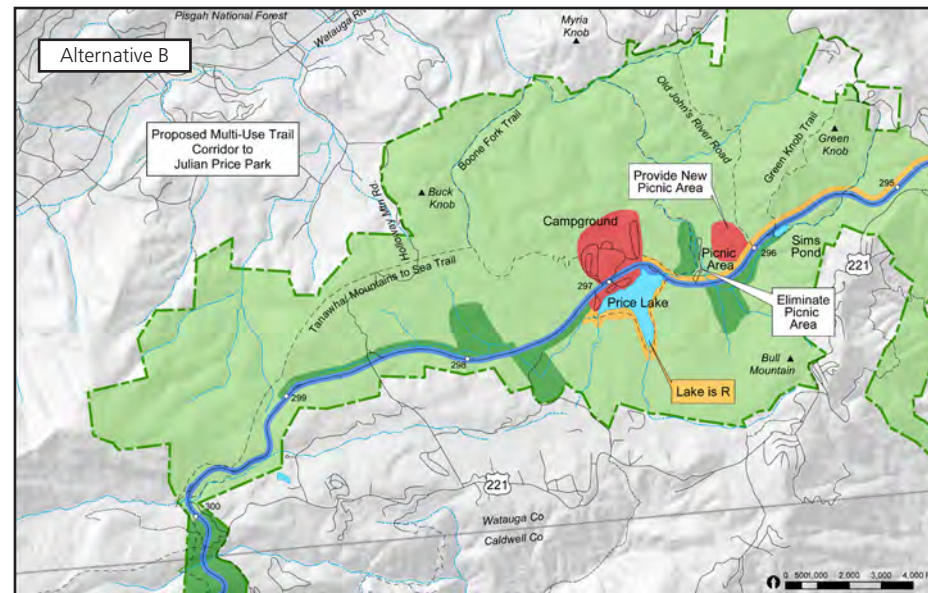
Doughton Park  
Mileposts 236-247  
Blue Ridge Parkway  
North Carolina/Virginia

### Julian Price Memorial Park, Mileposts 295-300

The wilderness-like appeal of more than 4,000 acres of forested highlands and cold mountain streams welcomes outdoor enthusiasts to Julian Price Memorial Park, a popular recreation area. Price Lake—47 acres of cool, mountain headwaters—further fulfills the wish of Julian Price to provide recreational opportunities for the public, including boaters and anglers. Currently the site includes a campground, picnic area, hiking trails, and a concession-operated boat rental facility at Price Lake. The campground has sites that are available through the national

campground reservation system. It is one of the most heavily used campgrounds on the parkway. Boat rental office and dock are located in an area that is difficult for visitors to see or find. It is also difficult for concessions to monitor boating activity on the lake from this location.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Important wetlands and listed species are at risk from visitor-related impacts.	Manage wetlands to protect sensitive species by adjusting current landscape management practices.	Same as alternative B.
Continue to provide picnicking in the current picnic area, which is heavily used and is in the floodplain.	Relocate the picnic area out of the floodplain and restore current site.	Same as alternative A. Also, upgrade comfort stations in picnic area.
Maintain boat rental office and dock in its present location and configuration.	Relocate boat rental office and dock to resolve current visibility problems.	Improve site signs to direct visitors to the boat rental office and dock.
Continue to provide the extensive backcountry hiking trail system.	Maintain the existing trail system and allow hiking only. Develop a part of the paved multiuse trail discussed under the Highlands segment, if feasible, through Julian Price recreation area to enhance opportunities for pedestrians and bicyclists to recreate and travel safely through the area with minimal interaction with automobile traffic.	Upgrade part of existing trail system and construct additional trails. Allow for mountain biking on designated portions of the trail system.
Retain the original campground design.	Improve RV access to a portion of the campground. Upgrades would include widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces.	Same as alternative B.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Allow for upgrades and redesigns to the campground as described above.	Same as alternative A.
Upgrade certain campground comfort stations to provide showers and universal accessibility.	Allow for upgrades and redesigns to the campground as described above.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.	Allow for upgrades and redesigns to the campground as described above.	Enlarge selected tent sites to better accommodate family-sized tents.
Continue to provide RV camping without water and electrical hookups.	Allow for upgrades and redesigns to the campground as described above.	Upgrade existing RV sites with water and electrical hookups.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Allow for upgrades and redesigns to the campground as described above.	Same as alternative A.



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

Parkway Lands  
Recreation Trails

Note: Parkway land boundary is based on the best available information.

Julian Price Memorial Park  
Mileposts 295-300  
Blue Ridge Parkway  
North Carolina/Virginia

## Linville Falls, Mileposts 315-319

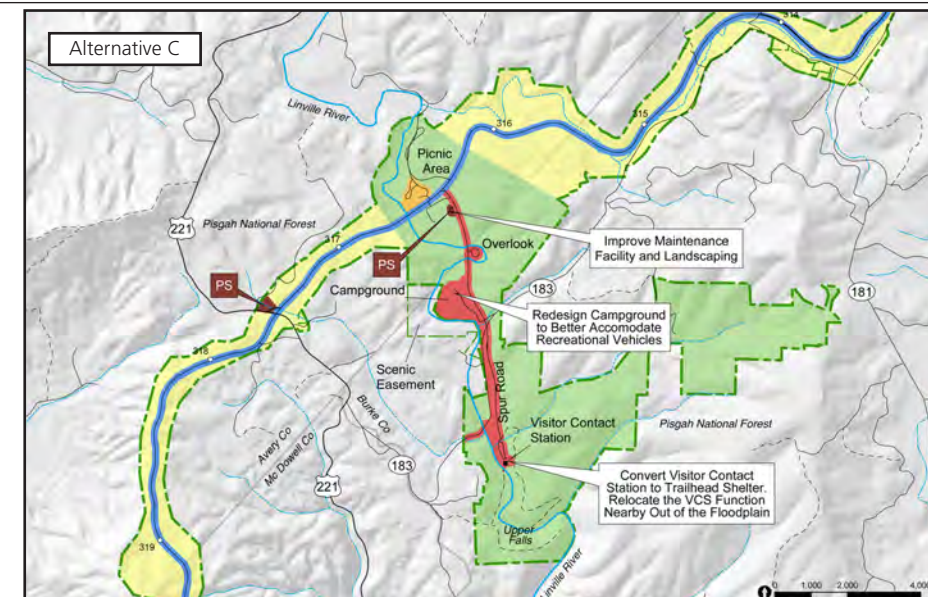
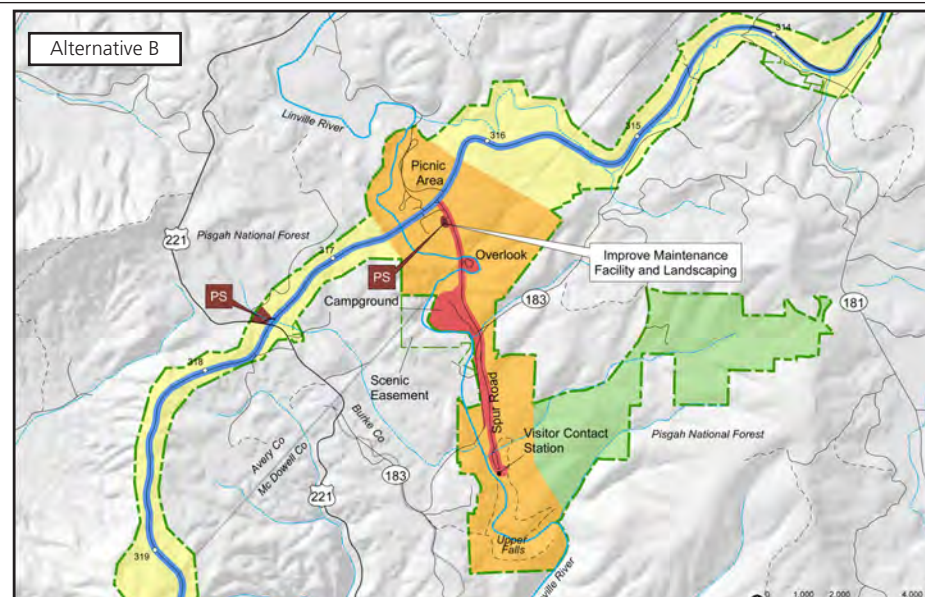
Linville Falls is a very popular, highly used recreation area of more than 1,100 acres. A 1.2-mile spur road travels along the Linville River to within walking distance of the falls. A heavily used trail system takes the visitor to the falls, which cascade through a forested gorge of old growth eastern hemlock stands. Looking eastward, away from the falls and into the adjacent Pisgah National Forest, is a view of the Linville Gorge Wilderness Area.

Currently the site includes a picnic area, campground, hiking trails, fishing opportunities, and a visitor contact station. This campground has sites that are available through the national campground reservation system.

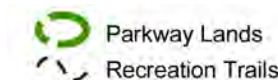
ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Retain the original management emphasis on traditional recreational pursuits.	Retain the original management emphasis on traditional recreational pursuits; allow for and accommodate future increases in demand for these activities.  Better delineate and possibly pave trails. Formalize access to visitor opportunities; improve universal access for fishing.	Outside the visitor service areas, manage for low-level visitor use and expect visitors to have minimal interaction with others.  Redesign picnic area to help reduce visitor impacts on riparian area. Formalize access to recreational opportunities; improve universal access for fishing.
The visitor contact station is in the floodplain. It was recently remodeled and enlarged and provides site orientation and interpretation.	Same as alternative A.	Convert visitor contact station to trailhead shelter and relocate contact station function to nearby location out of the floodplain.
Retain the original campground design.	Allow for upgrades to the campground as described below.	Allow for upgrades and redesigns to the campground as described below.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Same as alternative A.	Same as alternative A.
Upgrade certain campground comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.	Same as alternative B.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents.	Same as alternative B.
Continue to provide RV camping without water and electrical hookups.	Upgrade existing RV sites with water and electrical hookups.	Same as alternative B.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Same as alternative A.	Improve RV access to a portion of the campground. Upgrades would include widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces.
Maintenance facility is inadequate and is visually intrusive when viewed from the spur road.	Improve maintenance facility and area landscaping.	Same as alternative B.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations to provide services for a nine-month visitor season.	Expand operations to provide services for a 12-month visitor season.



Upper Linville Falls



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)



Note: Parkway land boundary is based on the best available information.

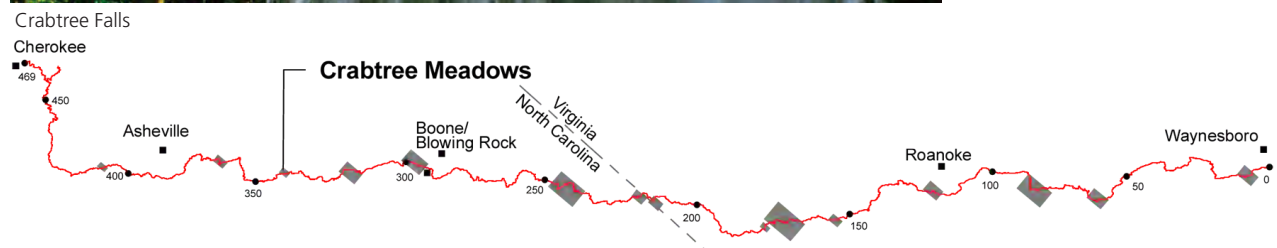
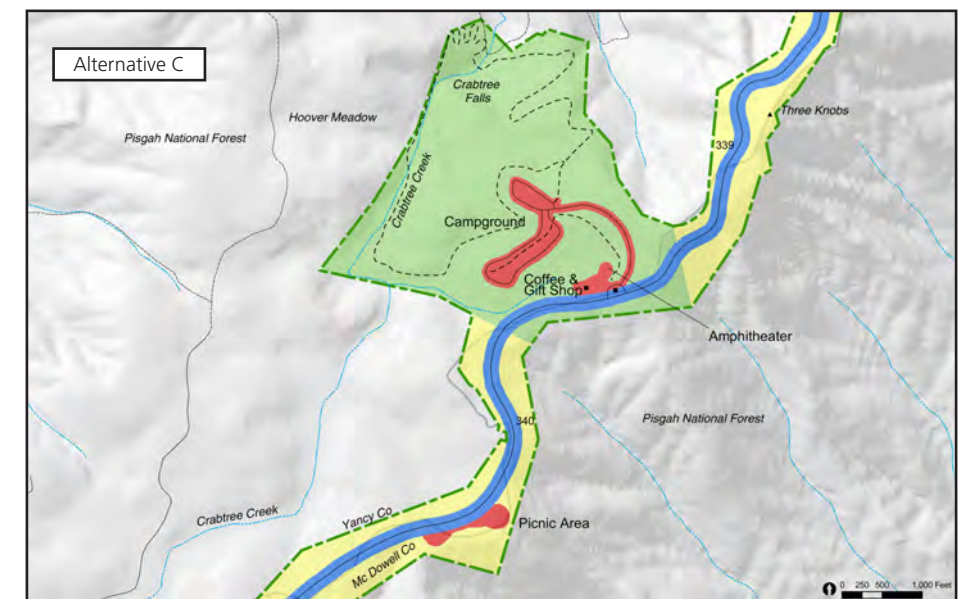
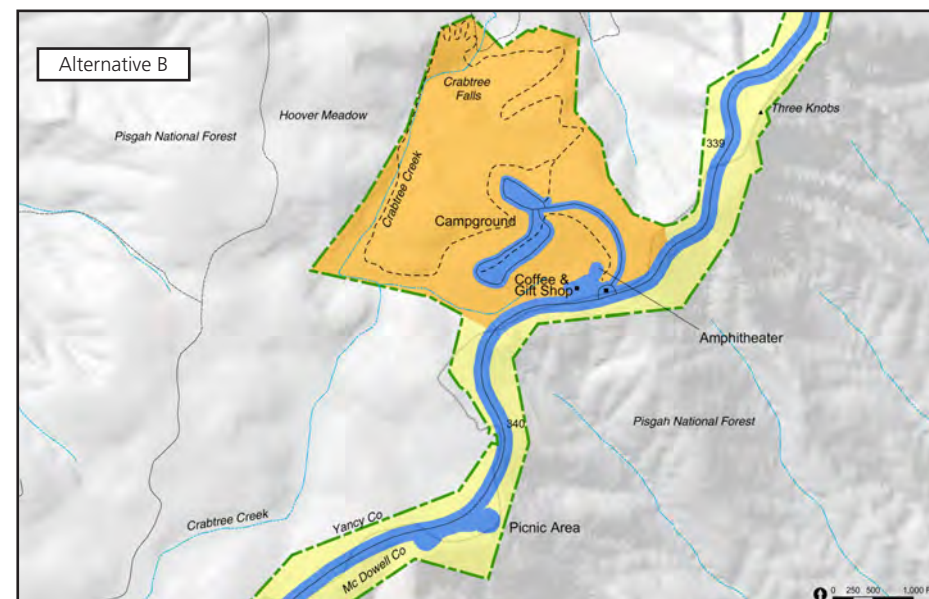
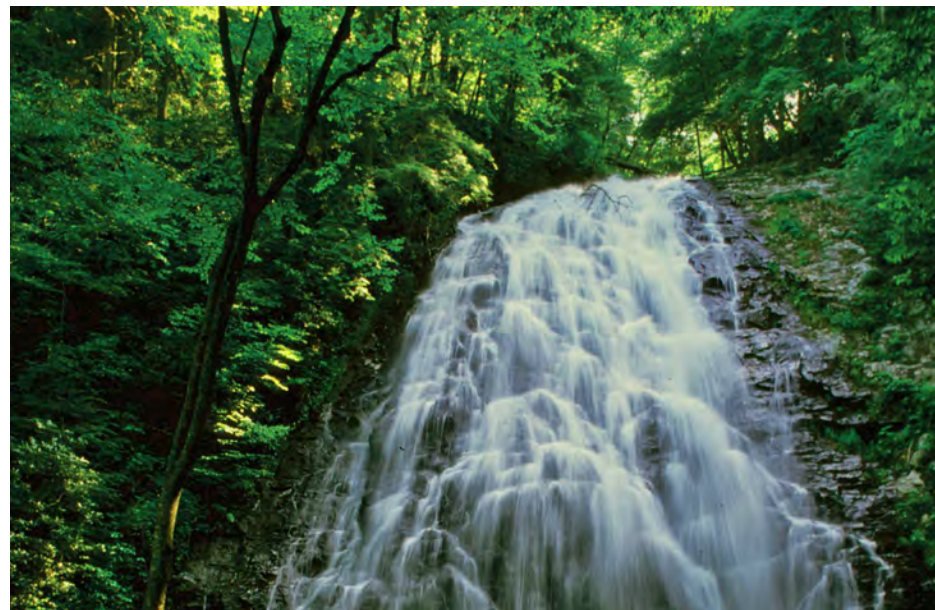
Linville Falls  
Mileposts 315-319

Blue Ridge Parkway  
North Carolina/Virginia

### Crabtree Falls, Mileposts 339-340

Visitors can participate in a variety of recreational activities at Crabtree Falls, including camping, hiking, picnicking, amphitheater programs, and dining. Visitors also have access to a camp store, gift shop, and snack bar. The many acres of meadows, adjoining forest, and spectacular Crabtree Falls provide a cool and delightful summer retreat within the shadow of the Black Mountain Range. Picnic area, campground, hiking trails, fishing opportunities, and a visitor contact station.

ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
Continue to manage NPS visitor services development at current size and scale.	Retain the original management emphasis on traditional recreational pursuits; allow for and accommodate future increases in demand for these activities. Expect visitors to have moderate to high contact with others (Recreation zone).	Same as alternative A. Outside the visitor service areas manage for low-level visitor use and expect visitors to have minimal interaction with others (Natural zone).
Continue to offer concession food and gift store services if economically feasible. If services are eliminated, the structures would be adaptively used or removed.	Continue to provide concession food and gift store services. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate.	As in alternative A, continue to offer concession food and gift store services if economically feasible. Where concession services are eliminated, the parkway would look to the private sector in communities outside the parkway to provide services.
Retain the original campground design.	Allow for upgrades to the campground as described below.	Allow for upgrades and redesigns to the campground as described below.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Same as alternative A.	Same as alternative A.
Upgrade certain campground comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.	Same as alternative B.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents.	Same as alternative B.
Continue to provide RV camping without water and electrical hookups.	Upgrade existing RV sites with water and electrical hookups.	Same as alternative B.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Same as alternative A.	Improve RV access to a portion of the campground. Upgrades would include widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces.



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

**Parkway Lands**  
**Recreation Trails**  
Note: Parkway land boundary is based on the best available information.

Crabtree Falls  
 Mileposts 339-340  
 Blue Ridge Parkway  
 North Carolina/Virginia

## Craggy Gardens, Mileposts 364-369

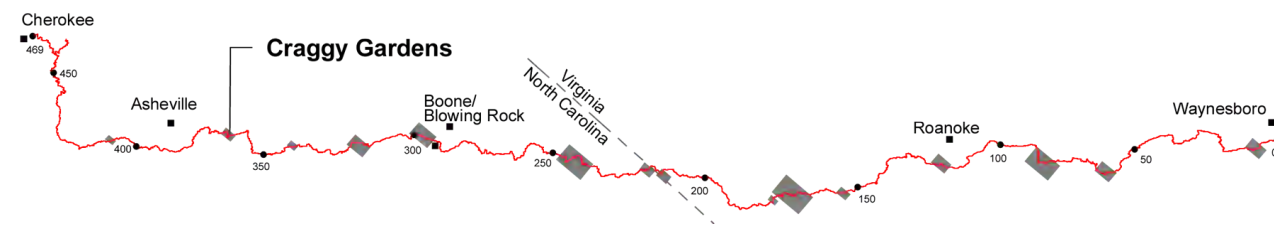
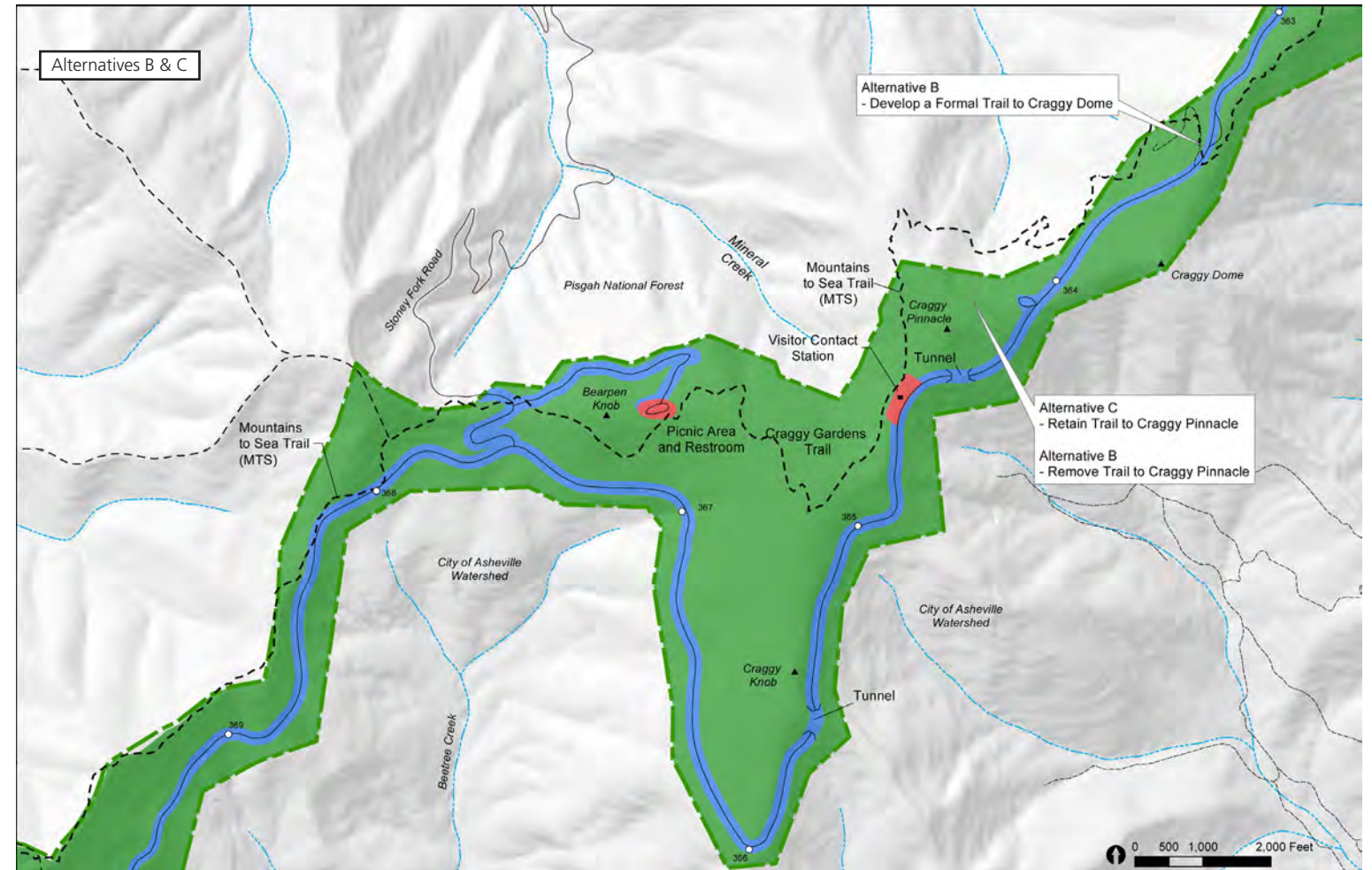
Craggy Gardens comprises almost 600 acres, including important heath and grassy bald habitat. Visitor amenities include trails, picnic area, restrooms, and a visitor contact station. Site interpretation includes wayside

exhibits supplemented with roving personal service, publications, and media inside the contact station.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
The only grassy bald on the parkway is located here and is at risk from successional plant growth without active management.	Restore the grassy bald to its historic size and actively maintain.	Same as alternative B.
The site's popular short- and long-distance trails are routed through sensitive resources, and off-trail hiking causes resource damage.	Close Craggy Pinnacle trail and restore trail tread to natural conditions in order to protect rare plant species. Provide a new formal hiking trail to Craggy Dome.	Retain the trail to Craggy Pinnacle. Explore and improve methods to keep visitors on the trail such as through signs, physical obstructions such as walls, staffing, and education. Monitor sensitive resources and adjust management actions as needed to meet protection needs.
Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.	Expand operations for a nine-month visitor season.	Same as alternative B.



Craggy Dome from Craggy Pinnacle



- Special Natural Resource (SNR)
- Historic Parkway (HP)
- Scenic Character (SC)
- Recreation (R)
- Special Cultural Resource (SCR)
- Park Support (PS)
- Visitor Services (VS)

**Parkway Lands**  
Recreation Trails

Note: Parkway land boundary is based on the best available information.

**Craggy Gardens**  
Mileposts 364-369

Blue Ridge Parkway  
North Carolina/Virginia

### Mt. Pisgah, Mileposts 407-409

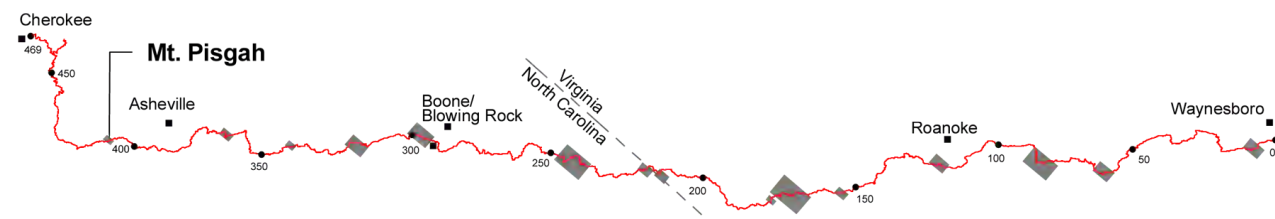
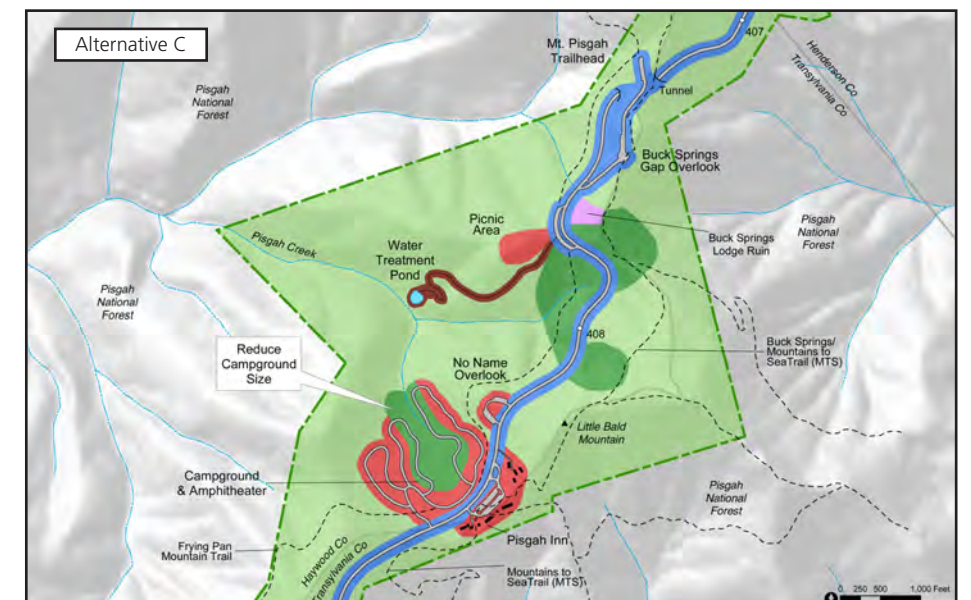
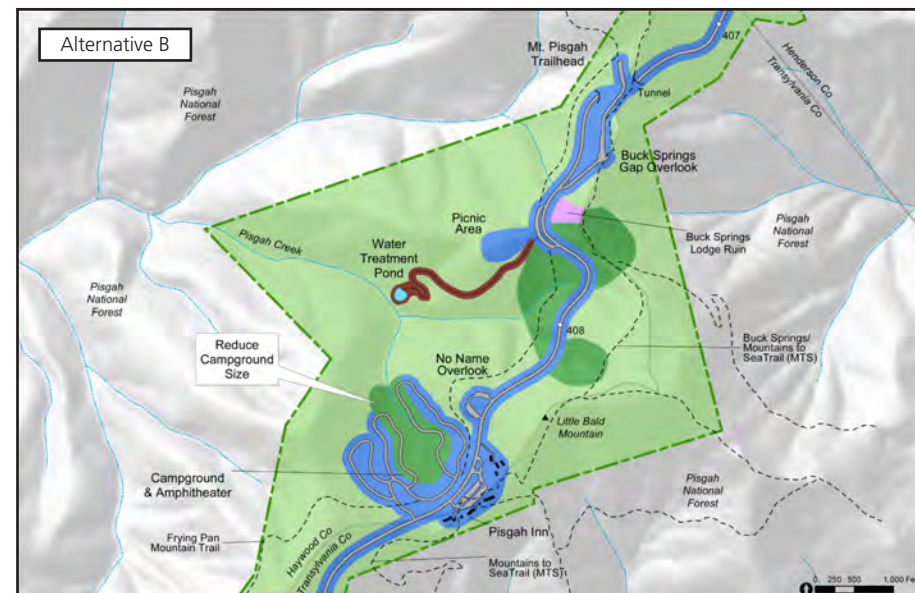
The Mount Pisgah recreation area is a scenic, high-elevation site. It provides a variety of recreational and educational opportunities, including a popular concession-operated lodge, restaurant, gift shop, and camp store. Across from the concession facilities is a campground and amphitheater, picnic area, and trails. Most interpretive

activities are concentrated at the campground. This area includes spruce/fir habitat and an 8,000-year-old high altitude bog. The bog is at risk because it is surrounded by a popular campground.

ALTERNATIVE A	ALTERNATIVE B (NPS Preferred)	ALTERNATIVE C
Continue to offer concession food, lodging, and gift store services if economically feasible. If services are eliminated, the structures would be adaptively used or removed.	Continue to provide concession food, lodging, and gift store services. Strategies might include making upgrades to infrastructure.	As in alternative A, continue to offer concession food and gift store services if economically feasible. Where concession services are eliminated, parkway managers would look to the private sector in communities outside the parkway to provide services.
Buck Spring Lodge is a ruin of a historic hunting lodge. The site is interpreted by wayside exhibits. Some minimal management of vegetation is allowed to support interpretation of the site.	Restore the Buck Spring Lodge cultural landscape, including clearing vegetation.	Same as alternative B.
Retain the original campground design, even though it risks impacting a rare high-elevation bog.	Close and rehabilitate all tent camping sites that are directly adjacent to the bog. Convert a portion of existing RV sites to tent camping sites. In sensitive resource areas near the bog restrict visitor use to trails.	Same as alternative B.
Continue to implement future repairs and rehabilitations needed to meet backlog maintenance needs.	Same as alternative A.	Same as alternative A.
Upgrade certain campground comfort stations to provide showers and universal accessibility.	Upgrade certain comfort stations to provide showers. Upgrade all comfort stations to be universally accessible.	Same as alternative B.
Continue to provide small tent sites that do not adequately accommodate large, family-sized tents.	Enlarge selected tent sites to better accommodate family-sized tents.	Same as alternative B.
Continue to provide RV camping without water and electrical hookups.	Upgrade existing RV sites with water and electrical hookups.	Same as alternative B.
Continue to provide limited access (i.e., narrow roads, tight turns, and small parking spaces) that does not adequately accommodate larger RVs.	Same as alternative A.	Same as alternative A.



View of Pisgah Inn



- Special Natural Resource (SNR)
- Natural (N)
- Recreation (R)
- Visitor Services (VS)
- Historic Parkway (HP)
- Scenic Character (SC)
- Special Cultural Resource (SCR)
- Park Support (PS)

Parkway Lands  
Recreation Trails  
Note: Parkway land boundary is based on the best available information.

Mt. Pisgah  
Mileposts 407-469  
Blue Ridge Parkway  
North Carolina/Virginia





## MITIGATION MEASURES COMMON TO THE ACTION ALTERNATIVES

Congress has charged the National Park Service with managing the lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 USC 1). As a result, the National Park Service routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of national park system resources.

To ensure that implementation of the final selected management alternative protects natural and cultural resources unimpaired for future generations and provides for a high quality visitor experience, a consistent set of mitigation measures would be applied to actions proposed in the final general management plan / environmental impact statement. The National Park Service would prepare appropriate environmental compliance reviews (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act’s sections 106 and 110, Archaeological Resources Protection Act, Endangered Species Act, and other relevant legislation) for such future actions. As part of the environmental review, the National Park Service would avoid, minimize, and mitigate adverse impacts. The park could consider implementing a compliance-monitoring program that would apply these mitigation measures and also include reporting protocols.

The following mitigation measures and best management practices would be applied to avoid or minimize potential adverse impacts from implementation of the general management plan.

### NATURAL RESOURCES

#### Vegetation

- Monitor areas used by visitors (e.g., trails) for signs of native vegetation disturbance. Use public education, revegetation of disturbed areas using native plant species, erosion control, and barriers to control potential impacts on plants from trail erosion or social trailing.
- Designate streamcrossing points for cattle in agricultural parcels and use barriers and closures to prevent trampling and loss of riparian vegetation.
- Develop revegetation plans for disturbed areas and require the use of native species. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation should be used to the extent possible.

#### Wildlife

- Employ various techniques to reduce impacts on wildlife, including visitor education programs, restrictions on visitor activities, and park law enforcement patrols.
- Consider the use of large mammal wildlife passages at various key points along the parkway to maintain and enhance the wildlife habitat connectivity across the roadway.
- Implement a natural resource protection program that includes such standard measures as
  - scheduling construction during seasons that are best for wildlife
  - monitoring for adverse impact

- implementing best management practices to prevent and reduce erosion and sediment
- installing and maintaining fences or other barriers to protect sensitive resources adjacent to construction sites
- removing all food-related items to reduce or prevent bear intrusion
- salvaging topsoil
- replanting with native vegetation, and
- periodic monitoring by resource management specialists or other park staff who would provide treatment and status reports
- Designate streamcrossing points for cattle in agricultural parcels and use barriers and closures to prevent disturbances to wildlife habitat.

### **Invasive Species**

- Apply an integrated pest management approach to comprehensively address invasive, nonnative plants on parkway lands. Implement integrated pest management at existing, developed park sites, at proposed future sites, and at other areas in need of pest management. Standard measures could include the following elements:
  - ensure construction and maintenance-related equipment arrives onsite free of mud or seed-bearing material
  - use only seeds and straw material certified as weed-free
  - identify areas of noxious weeds preconstruction
  - use registered herbicides, where applicable (and low toxicity applications in areas with sensitive resources)
  - treat noxious weeds or noxious weed topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment)
  - revegetate with appropriate native species
  - consider use of other management techniques such as mechanical

removal, biological controls, prescribed fire, etc.

- Implement an abatement program for nonnative, invasive wildlife (e.g., gypsy moth, hemlock woolly adelgid, etc.)

### **Threatened and Endangered Species and Species of Concern**

Mitigation actions would occur during normal park operations as well as before, during, and after construction to minimize immediate and long-term impacts on rare, threatened, and endangered species. These actions would vary depending on the type of project and its location. Many of the measures listed previously for vegetation and wildlife would also benefit rare, threatened, and endangered species by helping to preserve habitat. Mitigation actions specific to rare, threatened, and endangered species would include the following:

- Conduct surveys for rare, threatened, and endangered species as warranted. Also, consult with the U.S. Fish and Wildlife Service on the frequency required for surveys prior to the commencement of construction activities. Apply site and design facilities/actions to avoid adverse effects on rare, threatened, and endangered species. If avoidance is infeasible, minimize and compensate adverse effects on rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.

## Water Resources

- Establish effective water quality best management practices to prevent off-site soil erosion and sedimentation into creeks, rivers, and other water bodies. Apply on all construction projects on parkway lands.
- Use erosion control measures (as per best management practices), minimize discharge to water bodies, and regularly inspect construction equipment for leaks of petroleum and other chemicals to prevent water pollution during construction.
- Build a runoff filtration system to minimize water pollution from larger parking areas.
- Designate streamcrossing points for cattle in agricultural parcels and use barriers and closures to minimize effects on water quality.

## Wetlands

- Through consultation with the NPS regional wetland ecologist, determine if a wetlands statement of findings is needed for any future implementation project that could affect wetlands in the parkway and produce wetlands statement of findings documents where necessary.
- Consult with U.S. Army Corps of Engineers for guidance and assistance on section 404 jurisdictional wetland delineations.
- Delineate wetlands and apply protection measures before any ground disturbance. For example, wetlands would be delineated by qualified NPS staff or certified wetland specialists (with possible assistance by U.S. Army Corps of Engineers) and clearly marked before construction work. Perform construction activities in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.

## Soils

- Build new facilities on soils suitable for development.
- Minimize soil erosion by limiting the time that soil was left exposed and by applying other erosion control measures, such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work is completed, revegetate construction areas with native plants in a timely period.
- Identify potential acid-bearing rocks prior to construction activities (e.g., pyritic shale, high sulfur-bearing rocks) and take proper precautions to prevent acid drainage from rocks exposed during construction.

## Air Quality

Implement a dust abatement program. Standard dust abatement measures could include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate after construction.

## CULTURAL RESOURCES

In general, actions to mitigation adverse effects will be determined in consultation with the state historic preservation officer(s) and/or tribal historic preservation officer, local governments, the public, and others as appropriate, in accordance with 36 CFR 800 and the 2008 Programmatic Agreement Among the national Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers for Compliance with section 106 of the National Historic Preservation Act.

## Archeology

- Mitigation measures concerning archeological resources would follow Director's Order 28A for archeological management and *The Secretary of the Interior's Standards for Archeology and Historic Preservation*. Archeological collections will be curated per the curation regulations in 36 CFR 79.
- Wherever possible, new facilities would be constructed in previously disturbed areas where archeological resources are not likely to occur. Archeological surveys would precede any ground disturbance of undisturbed or unsurveyed lands. National register-listed or-eligible archeological resources would be avoided during construction activities. Mitigation activities associated with invasive species may also require cultural resource compliance to ensure that ground-disturbing activities avoid archeological resources or other cultural resources.
- If during construction previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and, if the resources cannot be preserved in situ, an appropriate mitigation strategy developed in consultation with the state historic preservation officer and, as necessary, American Indian tribes. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed. If non-Indian human remains were discovered, standard reporting procedures to the proper authorities will be followed, as will all applicable federal, state, and local laws.

## Cultural Landscapes

- The preservation and rehabilitation of cultural landscapes would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.
- Rehabilitate and/or restore cultural landscape resources to the extent feasible. This could entail restoring important historic viewsheds through manual thinning, rehabilitating agricultural fields and orchards, removing noncontributing and incompatible structures, and incorporating new additions using compatible design.
- Whenever possible, modify project design features to avoid effects to cultural landscapes. New developments would be relatively limited and would be on sites that blend with cultural landscapes. If necessary, use vegetative screening, as appropriate, to minimize impacts on cultural landscapes.

## Ethnography

- Accommodate and facilitate access to and ceremonial use of sites and resources of significance to American Indians or other associated individuals and groups in a manner that is consistent with the park purposes and avoids adversely affecting the physical integrity of these sites and resources.
- Document cultural and ethnographic landscapes and other resources in the park and identify treatments to ensure their preservation.

## Historic Structures

- The preservation and rehabilitation of national register listed or eligible structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of*

*Historic Properties (1995)* to ensure that the character defining features and integrity of the structures are minimally affected.

- Any materials removed during rehabilitation efforts would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work at the sites.

### **VISITOR SAFETY AND EXPERIENCE**

- Parkway has hired a safety officer to coordinate all aspects of employee and visitor safety.
- Implement parkway-wide or site-specific traffic control plans, as warranted. Standard measures include strategies to maintain safe and efficient traffic flow during the construction period.
- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Implement an interpretation and education program. Continue directional signs and education programs to promote understanding among parkway visitors.
- Conduct an accessibility study to understand barriers to parkway programs and facilities. Based on this study, implement a strategy to provide the maximum level of accessibility.

### **HAZARDOUS MATERIALS**

Implement a spill prevention and pollution control program for hazardous materials. Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.

### **NOISE ABATEMENT**

Implement standard noise abatement measures during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive uses, the use of the best available noise control techniques wherever feasible, the use of hydraulically or electrically powered impact tools when feasible, and the location of stationary noise sources as far from sensitive uses as possible. Mitigation measures would be applied to protect the natural sounds in the national park. Specific mitigation measures include:

- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Explore options to reduce the noise levels from vehicular traffic, including motorcycles.
- Site and design facilities to minimize objectionable noise.

### **SCENIC RESOURCES**

The parkway actively engages in a scenery conservation program that routinely reviews and assesses proposed developments on lands adjacent to and in the parkway. Parkway staff participate when landowners and/or developers request that parkway planners and landscape architects work with them or when local jurisdictions have land management requirements that provide for public review of proposed land use changes.

The parkway's scenery conservation system process involves

- identifying visual preferences and landscape character types
- determining viewshed sensitivity
- mapping view areas
- assessing view area scenic qualities
- identifying desired future conservation objectives
- monitoring and maintaining desired conditions

The data gathered throughout this process provides information to planning staff and leads to rational decisions relative to scenery as a key part of the parkway's mission.

Specific mitigation measures include the following:

- Where appropriate, use facilities such as boardwalks and fences to route people away from sensitive natural and cultural resources, while still permitting access to important viewpoints.
- Design, site, and construct facilities to avoid or minimize adverse effects on natural and cultural resources and visual intrusion into the natural and/or cultural landscape.
- Provide vegetative screening, where appropriate.
- Subject viewshed related projects to site-specific planning and compliance. Avoid adverse impacts through use of *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* to preserve historic scenic views and landscapes where scenic resources are an integral component of the cultural landscape (see cultural resource mitigation measures above). If adverse impacts could not be avoided, mitigate these impacts through a consultation process with all interested parties.

## **SOCIOECONOMIC ENVIRONMENT**

During the future planning and implementation of the approved management plan for the parkway, the National Park Service would work with local communities and county governments to further identify potential impacts and mitigation measures that would best serve the interests and concerns of both the National Park Service and the local communities. Partnerships would be pursued to improve the quality and diversity of community amenities and services.

## **SUSTAINABLE DESIGN AND AESTHETICS**

### **Sustainable Development**

Projects would avoid or minimize adverse impacts on natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, etc.) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrade, etc.) would be designed to work in harmony with the surroundings, particularly in historic districts. Projects would reduce, minimize, or eliminate air and water nonpoint-source pollution. Projects would be sustainable whenever practicable, by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.

### **Sustainable Trails**

Trails will be designed and constructed in a sustainable manner. This means that the design of the trails will: minimize natural and cultural resource damage including erosion, accommodate appropriate uses, plan for minimum maintenance while providing maximum ecological variety, and minimize conflict between trail users.

Archeology will be conducted on a site-specific basis to ensure that there is no impact to cultural or historic resources before trail alignments are considered. Trail alignments, where possible, will follow the natural contour, incorporate drainage to prevent erosion, have a durable tread, and maintain a grade of less than 10%. Trail alignments will avoid environmentally sensitive areas, wetlands, or areas where species of concern exist. Trail alignments will be chosen so as not to disturb wildlife migration routes.

Trail construction materials, grades, and trail clearances will be chosen to reflect those sustainability goals and will be based on the type and volume of use anticipated, on the stability of native materials, and on the type of terrain along the route. In addition, surface treatments on some trails will be chosen to provide accessibility in compliance with the *Uniform Federal Accessibility Standards* (UFAS) and the *Americans with Disabilities Act Accessibility Guidelines*—this may include crushed gravel, asphalt, and appropriate grading.

## USER CAPACITY

General management plans for national park system units, including the Blue Ridge Parkway, must address the management of user capacity. The National Park Service defines user capacity as the type and extent of use that can be accommodated while sustaining the quality of a park unit's resources and visitor experiences consistent with the park unit's purpose.

User capacity management involves establishing desired conditions, monitoring, and taking actions to ensure the park unit's values are protected. The premise is that with any visitor use comes some level of impact that must be accepted; therefore, it is the responsibility of the National Park Service to decide what level of impact is acceptable and what management actions are needed to keep impacts within acceptable limits.

National Park Service staff actively manage the levels, types, and patterns of visitor use to the extent necessary to achieve and maintain desired resource conditions and a quality visitor experience. The monitoring component of this process helps NPS staff evaluate the effectiveness of management actions and provides a basis for informed management of visitor use. The user capacity management process can be summarized by the following major steps:

- Establish desired conditions for resources and visitor experiences (through management zoning), including the types of appropriate recreation opportunities and levels and types of development.
- Identify indicators—measurable variables that are monitored to determine whether desired conditions are being met (e.g., vegetation damage, encounter rates on trails).
- Identify standards (minimum acceptable conditions) for the indicators.
- Monitor indicators to determine trends in conditions and if management actions are needed.

- Take management actions to maintain or restore desired conditions.

The sheer scope of the parkway presents many challenges to managing user capacity. Not only does the parkway extend for 469 miles across two states and 29 counties, but it also includes many major recreation areas and a myriad of entry and exit points used by more than 16 million visitors annually. Given this incredible scope, user capacity management must be strategic through the efficient use of limited staff and funding, targeted focus on areas of most concern along the parkway, and creative approaches to monitoring and management strategies.

This general management plan provides a general management framework tailored to the parkway that provides the fundamental structure for a long-term, comprehensive strategy to manage user capacity. This framework would help guide the strategic use of limited park staff and funding regarding future user capacity planning and management. This management framework includes the following components:

- The eight management zones described earlier in this chapter provide the basis for managing user capacity. Each zone prescribes desired resource conditions, visitor experiences, and recreational opportunities for different areas of the parkway. The zones also prescribe the types and levels of developments necessary to support these conditions, experiences, and opportunities. This element of the framework is the most important to long-term user capacity management in that it directs the National Park Service on how to best protect resources and visitor experiences while offering a diversity of visitor opportunities.
- Existing and potential visitor-related concerns for each management zone are described, along with identification of priority areas in each zone for managing



user capacity. As parkway managers collect more detailed information on visitor-related concerns in those areas, specific indicators and standards would be identified.

- Considerations for selecting potential indicators and standards are included to determine if unacceptable visitor-related impacts are occurring.
- Potential management strategies are outlined that could be implemented to avoid or minimize adverse impacts from visitor use.

This framework is intended to be a starting point to an effort needing further reflection, development, and adaptation. Final selection of indicators and standards for monitoring purposes and implementation of management

actions that affect use would comply with the National Environmental Policy Act (1969), section 106 of the National Historic Preservation Act, other laws, and NPS management policies as appropriate.

Table 7 describes the user capacity management framework for the Blue Ridge Parkway. Although the framework is organized by management zones, the approach developed for one zone can be adapted and applied to other zones as needed and appropriate. The ultimate goal of the framework is to provide strategic management guidance that is effective and efficient while maximizing flexibility for managers to maintain the desired resource conditions and visitor experiences of the parkway.



**TABLE 7. USER CAPACITY MANAGEMENT FRAMEWORK BY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
Potential Visitor-Related Concerns	Impacts on rare plant and animal species, sensitive habitats, and ecosystem processes as a result of human-caused vegetation trampling and sensory-based disturbances.	Impacts on vegetation and soils resulting from off-trail use, camping in undesignated areas, or concentrated levels of use in fragile areas.	Impacts on visitors' ability to experience the high-quality scenic landscapes. Impacts on the visitor experience as a result of conflicts between user groups (i.e., mountain bikers, horseback riders, hikers, and groups using the paved, multiuse trail).	Impacts on the visitor experience as a result of conflicts between user groups (i.e., mountain bikers, horseback riders, and hikers).	Impacts on the visitor experience as a result of crowding and conflicts between user groups (i.e., RV and tent campers).	Impacts on the visitor experience while traveling the parkway as a result of traffic congestion and conflicts among user groups (e.g., automobiles, motorcycles, and bicycles). Impacts on visitors' ability to experience the high-quality scenic landscapes of the parkway as a result of crowding at or near popular vistas and overlooks.	Impacts on historic structures that contribute the national significance of the parkway, resulting from overuse or inappropriate types of use.	User capacity is not addressed for this zone, because visitor opportunities and services are generally not provided. As a result, visitor use is extremely low. If visitor use poses any future impacts, then indicators and standards would be developed.
Priority Areas for Managing User Capacity	Globally ranked plant communities; critical habitats for threatened and endangered species; and state natural heritage areas and conservation sites that are accessible or near visitor-use areas.	Trail systems or backcountry campsites that are experiencing impacts and/or are not adequately designed to support heavy use or certain types of use.	Trail systems that receive high levels of visitation.	Trail systems that receive high levels of visitation.	Areas of the parkway that receive the greatest visitation or the highest frequency of complaints (including campgrounds, picnic areas, and lodges).	Parkway stretches that receive the highest traffic volumes or where the greatest visitor conflicts occur, such as near Roanoke, Boone/Blowing Rock, and Asheville.  Vistas and overlooks along the parkway that receive the highest levels of use.	Sensitive cultural sites that are accessible to visitors, especially those that receive high levels of use or those that do not have park staff present fulltime.	
Considerations for Potential Indicator Topics	Extent of trampling of select plant species. Measures of disturbance to certain wildlife species.	Extent and severity of trampling of vegetation cover, soil compaction, and/or erosion. Number of visitor-created trails and/or campsites. Trail and/or campsite condition assessments.	Encounter rates between different types of user groups. Frequency of complaints that are related to visitor-use conflicts and/or crowding. Visitor evaluations of degree of use conflicts and/or crowding.	Encounter rates between different types of user groups. Frequency of complaints that are related to visitor-use conflicts and/or crowding. Visitor evaluations of degree of use conflicts and/or crowding. Parking use rates and typical duration of parked vehicles at selected trailheads/parking areas.	Frequency of complaints related to visitor-use conflicts and/or crowding. Visitor evaluations of degree of use conflicts and/or crowding.	Level of Service along road segments. Vehicles per viewscape. Frequency of complaints related to traffic volumes and/or use conflicts. Safety incidents. Visitor evaluations of traffic congestion and/or use conflicts. People at one time at high-use overlooks. Portion of time parking is available. Portion of visitors who avoid overlooks due to perceived crowding or lack of parking. Visitor complaints re: crowding. Visitor evaluations of degree of crowding.	Wear on historic structures as a result of visitor use. Incidents of disturbance or vandalism of historic structures. Historic site condition assessments.	

**TABLE 7. USER CAPACITY MANAGEMENT FRAMEWORK BY MANAGEMENT ZONES**

	Special Natural Resources	Natural	Scenic Character	Recreation	Visitor Services	Historic Parkway	Special Cultural Resources	Park Support
Considerations for Developing Potential Standards	Determine minimum levels of trampling and disturbances to avoid interference with factors affecting species viability.	Determine trampling thresholds to maintain plant vigor. Determine an acceptable level of vegetation loss, soil compaction, and/or erosion at camp sites or along select trails.	Determine appropriate levels of user group interaction considering setting conditions, use patterns, and visitor perceptions of use conflicts and crowding.	Determine appropriate levels of user group interaction considering setting conditions, use patterns, and visitor perceptions of use conflicts and crowding.	Determine acceptable levels of conflict and crowding at selected sites considering use patterns and visitor preferences.	Determine minimum levels of traffic volumes for different modes of transportation to maintain free-flowing speeds; where the effects of minor incidents are easily absorbed and encounters with other travelers do not diminish the leisure traveling experience.  Determine an acceptable amount of time when parking is at maximum capacity at select overlooks. Determine an acceptable degree of crowding considering visitor use patterns and visitor preferences at select sites.	Determine an acceptable level of damage (if any) to select cultural sites. Consider a range of standards that trigger incrementally more stringent management actions.	
Potential Management Strategies	Educate visitors on reducing their impact on the natural environment. Restrict the types or levels of use to certain sensitive areas if standards are exceeded. Consider seasonal closures if impacts are specific to certain times of the year.	Educate visitors on reducing their impact on the natural environment. Consider establishing or relocating designated backcountry campsites, reroute trails away from fragile areas, or redesign them to accommodate different types or more use. Consider backcountry permits or other means to manage use levels, patterns, and behaviors.	Provide education on trail etiquette. Consider modifications or improvements to the trail design to make it more compatible for visitor use patterns. Consider one-way trails, seasonal-use trails, or trails dedicated to fewer types of activities.	Provide education on trail etiquette. Consider modifications or improvements to the trail design to make it more compatible for multiple uses. Consider one-way trails, seasonal-use trails, or trails dedicated to fewer types of activities.	Provide pretrip planning information to visitors about peak periods of use along the parkway. Consider traffic-flow improvements and other redesigns that enhance the visitor experience in developed areas.	Provide pretrip planning information to visitors about peak periods of use along the parkway. Restrict commuter traffic on the parkway, limit access onto the parkway, establish vehicle size restrictions, or provide new or additional off-parkway parallel bicycle paths, while still allowing bicycles on the roadway.  Provide pretrip planning information to visitors about peak periods of crowding at certain overlooks. Provide real-time information about parking lot conditions. Consider expanding parking or converting RV parking spaces into additional spaces for cars.	Provide education on appropriate behaviors. Use signs and/or barriers to limit and manage contact with cultural resources. Increase park staff presence at cultural sites to avoid further damage. Modify visitor access and circulation or close portions of the site to minimize direct impacts.	

# MANAGEMENT STRATEGIES TO ADDRESS CLIMATE CHANGE

Climate change has the potential to adversely affect the future resource conditions of the parkway. As global and regional climates continue to change, a management approach that enhances the protection and resilience of climate-sensitive resources is becoming increasingly important. The following outlines such a strategy that adapts to our growing understanding of climate change influences and the effectiveness of management to contend with them.

Climate change science is a rapidly advancing field and new information is continually being collected and released, yet the full extent of climate change impacts on resource conditions is unknown. As such, park managers and policy makers have not determined the most effective response mechanisms for minimizing impacts and adapting to change. Because of this, this proposed management strategy does not provide definitive solutions or directions; rather it provides science-based and scholarship-based management principles to consider when implementing the broader management direction of the parkway.

## STRATEGY

The NPS Climate Change Response Program aims to prepare the agency and its parks for the anticipated management needs that result from climate change. To help parks cope with the uncertainty in future climate conditions, this Climate Change Response Program serves to help park managers determine the extent to which they can and should act to protect the parks' current resources while allowing the parks' ecosystems to adapt to new conditions. Efforts of the NPS Climate Change Response Program focus on the following strategies:

## Science

- Conduct scientific research and vulnerability assessments necessary to support NPS adaptation, mitigation, and communication efforts
- Collaborate with scientific agencies and institutions to meet the specific needs of management as it confronts the challenges of climate change
- Learn from and apply the best available climate change science

## Mitigation

- Reduce carbon footprint of National Park Service
- Promote energy efficient practices, such as alternative transportation
- Enhance carbon sequestration as one of many ecosystem services
- Integrate mitigation into all business practices, planning, and the NPS culture

## Adaptation

- Develop the adaptive capacity for managing natural and cultural resources and infrastructure under a changing climate
- Inventory resources at risk and conduct vulnerability assessments
- Prioritize and implement actions and monitor the results
- Explore scenarios, associated risks, and possible management options
- Integrate climate change impacts into facilities management

## Communication

- Provide effective communication about climate change and impacts to the public
- Train park staff and managers in the science of climate change and decision tools for coping with change
- Lead by example

With the guidance of the above strategies, the parkway will use the following management approach to address climate change throughout the implementation of this general management plan. Many of these specific management strategies are adopted from the publication, “Some guidelines for helping natural resources adapt to climate change” (IHDP 2008). Further elaboration and adaptation of these are anticipated as implementation of the general management plan proceeds.

- Identify key natural and cultural resources and processes that are at risk from climate change. Establish baseline conditions for these resources, identify their thresholds, and monitor for change. Increase reliance on adaptive management to minimize risks.
- Restore key ecosystem features and processes and protect cultural resources to increase their resilience to climate change.
- Use best management practices to reduce human-caused stresses (e.g., park infrastructure and visitor-related disturbances) that hinder the ability of species or ecosystems to withstand climatic events.
- Form partnerships with other resource management entities to maintain regional habitat connectivity and refugia that allow species dependent on parkway resources to better adapt to changing conditions.
- Reduce or mitigate greenhouse gas emissions associated with parkway operations and visitor use, such as alternative transportation options (e.g., shuttles and low-emission vehicles for the park’s fleet) and biofuels and other renewable energy sources for visitor centers, administrative buildings, and campgrounds.
- Use the fragile environments of the Blue Ridge Parkway as an opportunity to educate visitors about the effects of climate change on the resources they are enjoying. Inspire visitors to take action through leadership and education.
- Manage parkway facilities and infrastructure (structures, trails, roads, drainage systems, etc.) in a way that prepares for and adapts to the effects of climate change.

# FUTURE STUDIES AND IMPLEMENTATION PLANS NEEDED

## INTRODUCTION

After completion and approval of this general management plan, other more detailed studies and plans would be needed before certain actions can be implemented. Some of these actions would require additional environmental compliance, public involvement, and consultation. The extent of further public input and environmental analysis would vary depending on the impacts anticipated from a proposed action. Appropriate permits may also be needed for certain actions.

Implementation of these studies and plans would also depend on future funding and staffing levels. The approval of this general management plan does not guarantee that the funding needed for implementation would be forthcoming.

The following paragraphs list future studies (including inventories, evaluations, and condition assessments) and plans (including strategies) that would likely be needed to implement the action alternatives. If a particular study or plan is only associated with one of the action alternatives, that is noted in the list. The list is organized by parkway-wide management strategies presented earlier in this chapter.

## Scenery Conservation

- Complete the baseline evaluation of the quality and condition of off-parkway scenic views from parkway overlooks and roadside vistas in order to identify specific views along the parkway for protection.
- Work with partners to establish long-term strategies to conserve views from the parkway.
- Under alternative C, develop an implementation plan or plans to redesign or relocate certain overlooks.

## Land Protection

Develop a land protection strategy that does not identify specific tracts of land, but establishes (1) resource and visitor use management criteria, (2) park management zoning and land use compatibility factors, and/or (3) other protection goals that would be used to evaluate the merits of a property when it becomes available from willing sellers.

## Natural Resources

- Develop a resource stewardship strategy that provides comprehensive, long-range direction for natural and cultural resource management (NPS policy now requires that a resource stewardship strategy be completed to replace the resource management plan). This strategy would establish a multiyear, ecosystem-based planning process for the natural resource program to implement inventories, condition assessments, monitoring, and restoration projects for the following:
  - vegetation, including both native and invasive species;
  - wildlife, including mammals, birds, reptiles, fish, and amphibians;
  - wetlands, including bogs, springs, seeps, and riparian areas;
  - ecologically sensitive areas, including globally imperiled habitats, state natural heritage areas, conservation sites, and critical habitat for endangered species;
  - active management measures to maintain and restore natural ecosystems (e.g., addressing maturing oak forest that has not been exposed wildfire over the past century); and
  - special status species, including federal and state listed plants and animals.

- Conduct continuous water quality and air quality monitoring along the parkway.
- Develop a restoration plan or plans to provide guidance for restoring rare habitats and special status species.
- Through consultation with the NPS regional wetland ecologist, determine if a wetlands statement of findings is needed for any future implementation project that could affect wetlands in the parkway and produce wetlands statement of findings documents where necessary.

### **Climate Change**

- Develop a climate change action plan that builds on the parkway’s approach to addressing climate change outlined in this general management plan, including strategies to reduce the parkway’s carbon footprint and an analysis to determine the effects of climate change on park resources, values, facilities, and visitor services.
- Pursue data collection and research that addresses climate change effects on natural and cultural resources, as well as human dimensions. These efforts could include scenario planning via the assistance of the Climate Change Response Program and partnership research efforts with other agencies/institutions.

### **Cultural Resources**

- Develop a resource stewardship strategy that provides comprehensive, long-range direction for cultural resource management, including the establishment of a multiyear planning process for resource inventory, assessment, research, interpretation, and protection. Cultural resources (such as archeological sites, historic structures, cultural landscapes, and ethnographic

resources) would continue to be inventoried and assessed parkway-wide.

- Update the collection and archive management plan, integrated pest management plan for collections, and scope of collections as needed.
- Under alternative C, Parkway Land Use Maps would be updated and revised to allow for deviations when necessary to capture regional landscape character and to provide for recreational use.
- Complete the nomination of the parkway as a national historic landmark.
- Develop a parkway-wide strategy to identify, monitor, and mitigate the impacts of climate change on cultural resources.
- Develop treatment plans for special cultural resource areas (e.g., Harris farm) and cultural landscapes.
- Develop treatment plans for cultural resources in need of rehabilitation and stabilization (e.g., Saunders farm). Historic structures currently in use for concession operations may require specific plans for rehabilitation, restoration, or adaptation for new uses.

### **Visitor Use and Interpretation**

- Develop an implementation plan or plans to substantially increase the number of visitors contacted over current levels by providing visitor orientation services at underserved parkway entrances, especially the northern and southernmost entrances. Under alternative C, this would include regional visitor information services at Roanoke and Boone/Blowing Rock areas.
- Develop a user capacity strategy for the parkway consistent with the user capacity framework presented in this general management plan.
- Update visitor use and analysis data to serve as a foundation to help guide a



variety of other implementation studies and plans.

- Develop new methods to reach a wider variety of audiences using available new technologies.
- Update the parkway's comprehensive interpretive plan as needed.

## Concessions

Under alternative B, develop a strategy (such as a new commercial services plan) to provide viable concession services at all locations to ensure the long-term availability of in-parkway lodging, food, and other services. An implementation plan would be developed if either upgrades to infrastructure or the addition of new facilities is appropriate.

## Access and Circulation

**Campgrounds.** Develop an implementation plan or plans to upgrade all nine of the parkway campgrounds, including comfort stations, tent sites, RV sites, and amphitheaters. Under alternative B, the Roanoke Mountain campground would be converted to a day use recreation area. Under alternative C, the implementation plan or plans would include RV access improvements to all campgrounds (except at Roanoke Mountain and Mt. Pisgah).

**Multiuse Trails.** Under alternative C, develop an implementation plan or plans to construct a paved, multiuse trail parallel to, but separate from, the parkway near Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville to enhance opportunities for pedestrians and bicyclists to safely recreate in the parkway corridor.

**Partnerships.** Strategies to enhance existing partnerships or actively pursue new ones with public and private entities would be incorporated into the future studies and plans listed previously. Under alternative C, more emphasis would be placed on partnerships that link parkway management with regional

natural, recreational, and cultural heritage resources and experiences.

**Access Plans.** Develop a comprehensive access management plan that defines locations and traffic control strategies for all driveway and secondary road access on the parkway, including locations for the potential replacement of at-grade crossings with new grade separation structures.

- Under alternative C, conduct a transit feasibility study to identify and evaluate strategies to connect adjacent urban areas to parkway recreation areas. Subsequently complete an implementation plan to outline funding and operations for recommended transit strategies.
- Complete study and final design to evaluate, identify, and design improvements at pullouts.
- Complete conceptual and final design of new grade separation structures at locations identified in the access management plan, including negotiations for acquisition of right-of-way, if needed.
- Complete study and final design to evaluate, identify, and design parking and access improvements at recreational areas along the parkway.

**Trail Plans.** Under alternative B, develop an implementation plan or plans to expand and improve parkway trail systems to accommodate potential increases or changes in recreation demand.

Under alternative C, develop a pedestrian/bike master plan to identify the locations and treatments of a paved multiuse trail facility parallel to, but separate from, the parkway. Subsequently complete an implementation plan to negotiate agreements with adjacent agencies, if necessary, and outline funding. Complete final design of the paved trail. Under alternatives B and C, develop a trail master plan to identify the expanded locations and treatments of improvements for the trail systems to accommodate potential increases in

recreation demand, including mountain bikes where appropriate. Subsequently complete an implementation plan to negotiate agreements with adjacent agencies, if necessary, and outline funding. Complete final design of new trails and trail improvements.

## STAFFING AND COST ESTIMATES

National Park Service decision makers and the public must consider an overall picture of the costs and advantages of various alternatives, including the no-action alternative, to make wise planning and management decisions for the parkway. Such consideration can shed light on the cost of the no-action alternative and make possible a more relevant comparison to the action alternatives.

The figures used are estimates for comparison purposes only and are not to be used for budgetary purposes or implementation funding requests. If and when the actions are implemented, actual costs would vary. Specific costs would be determined in subsequent, more detailed planning and design efforts.

Presentation of costs in this plan does not guarantee future NPS funding. Project funding would not come all at once; it would likely take many years to secure and may be provided by partners, donations, or other nonfederal sources. Although the parkway hopes to secure this funding and will prepare itself accordingly, the parkway may not receive enough funding to achieve all desired conditions within the time frame of the general management plan (the next 20+ years). The estimates provided in this section include annual operating costs, staffing levels, one-time facility and nonfacility costs, and other costs. A definition of each of these types of costs follows:

- **Annual Operating Costs** are the total costs per year for maintenance and operations associated with each alternative, including utilities, supplies, staff salaries and benefits, leasing, and other materials. Cost and staffing

estimates assume that the alternative is fully implemented as described.

- **Staffing** is the total number of person-years of staff required to maintain the assets of the park at an acceptable level, provide visitor services, protect resources, and generally support the park's operations. The full-time equivalency (FTE) number indicates NPS staffing levels, not volunteer positions or positions funded by partners. Full-time equivalency salaries and benefits are included in the annual operating costs.
- **One-time Facility Costs** include those for the design, construction, rehabilitation, upgrades or adaptive reuse of visitor centers, campgrounds, picnic areas, roads, parking areas, administrative facilities, comfort stations, educational facilities, maintenance facilities, trails, and other visitor facilities.
- **Deferred Maintenance Costs** include costs related to maintenance that was not performed when it was scheduled and was put off or delayed. The primary reason for delays is lack of funds to address maintenance needs.
- **One-time Nonfacility Costs** include actions for the preservation of cultural or natural resources not related to facilities, the development of visitor use or management tools, and other park management activities that would require substantial funding above annual operating costs.
- **Other Costs** are identified separately for projects that are wholly or partially funded from other sources.

Staffing and annual operating cost estimates for the action alternatives are calculated by taking the staffing and annual operating costs under the no-action alternative and adding additional staffing and annual operating costs associated with their implementation. Table 8 provides cost estimates and staffing (FTE) levels for implementing the three alternatives. Please note that all costs in this section are rounded to the nearest thousand dollars.

**TABLE 8. COST ESTIMATES AND STAFFING FOR FULL IMPLEMENTATION OF THE ALTERNATIVES**

	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
Staffing (FTE)	175	232	252
Annual Operating Costs	\$16,743,000	\$20,929,000	\$22,768,000
One-Time Facility Costs	\$14,466,000	\$73,994,000	\$76,112,000
One-Time Nonfacility Costs	\$1,903,000	\$5,207,000	\$6,464,000
Other Costs	\$8,071,000	\$54,336,000	\$158,370,000

**Staffing (FTE)**

Staffing levels under the no-action alternative presented in table 9 are the actual number of positions funded in fiscal year 2010 (FY10). Due to funding limitations, 51 full-time positions are currently vacant in various divisions.

Table 9 also shows the total number of additional staff above the FY10 funded staffing levels necessary to implement the management strategies described under alternatives B and C. This allows for direct comparison of staffing levels that would be needed for the action alternatives and those needed to continue current management under the no-action alternative. The increase in annual operating cost above that under alternative A is solely a result of the increased number of staff proposed to fully implement alternatives B and C.

**Note:** FY10 ONPS (Operation of the National Park System) funded positions do not include seasonal staff positions because the number of

seasonal staff hired varies annually depending on available funds.

Volunteers and partners would continue to be key contributors to NPS operations under all of the alternatives. The parkway relies heavily on volunteers and Student Conservation Association interns to complete park projects and provide day-to-day park operations support. In 2010, the parkway had 1,614 volunteers working in the following categories:

- Interpretation: 11,809 hours
- Maintenance: 10,761 hours
- Administration: 6,302 hours
- General Park Management: 3,426 hours
- Natural Resource Management: 1,212 hours
- Protection/Operations/ Law Enforcement: 342 hours
- Cultural Resource Management: 238 hours

In addition, the parkway had 36 Student Conservation Association interns working a total of 6,431 hours and 25 campground hosts working 6,806 hours. The total of volunteer hours above is 47,327, which is equivalent to just under 24 full-time positions.

Volunteers and partners would continue to be an important part of ongoing management and a vital component of the parkway’s efforts to implement alternatives B or C.

Staffing under all alternatives is described below. The Interpretation and Education Division and the Resource Management and Science Division are discussed in more detail because of the number of additional staff that would be needed in these divisions to fully implement either alternative B or C.

**TABLE 9. ESTIMATED STAFFING LEVELS TO IMPLEMENT THE ALTERNATIVES**

	Alternative A (No-action)	Alternative B (NPS Preferred)		Alternative C	
	FY10 ONPS Funded Positions	New FTEs	Total FTEs	New FTEs	Total FTEs
Total	175	57	232	77	252
Superintendent's Office	4	0	4	0	4
Administration and Concessions	15	0	15	0	15
Maintenance and Engineering	86	3	89	5	91
Interpretation and Education	11	26	37	44	55
Resource Management and Science	8	27	35	27	35
Planning, Lands, and Compliance	7	1	8	1	8
Law Enforcement, Safety, and Emergency Services	44	0	44	0	44

**Alternative A (No-action).** The NPS staffing level under the no-action alternative would continue to be 175 funded full-time positions in order to carry out routine operations of the parkway. This includes 4 employees in the superintendent's office; 15 in administration and concessions; 86 in maintenance and engineering; 11 in interpretation and education; 8 in resource management and science; 7 in planning, lands, and compliance; and 44 in law enforcement, safety, and emergency services.

The Interpretation and Education Division is the only park division that relies on ONPS base-funded seasonal positions to carry out its program from year to year. However, for consistent comparison purposes, only permanent FTE are reflected in these general management plan staffing estimates.

**Alternative B (NPS Preferred).** The NPS staffing level necessary to implement alternative B would be the equivalent of 232 full-time staff members—57 additional FTEs compared to the total number of staff funded under the no-action alternative.

The Interpretation and Education Division would require 26 additional staff in order to expand visitor services at key locations along the parkway. This includes expanding visitor services from a six-month season to a nine-

month season at 11 locations along the parkway: Humpback Rocks, James River, Peaks of Otter, Mabry Mill, Blue Ridge Music Center, Linn Cove, Linville Falls, Museum of North Carolina Minerals, Craggy Gardens, Folk Art Center, and Waterrock Knob. Since seasonal staff cannot legally work more than 1,030 hours in a year, this extension means that seasonal staff would have to be converted to permanent.

Staff increases in the Interpretation and Education Division would also improve information and orientation services at the north and south entrances to the parkway, which are major access points for visitors. The goal would be to substantially increase visitor contacts over current levels. Staff increases would also improve interpretive media and educational programs at Humpback Rocks, Mabry Mill, and Cumberland Knob.

Twenty-seven additional staff would be needed in the Resource Management and Science Division in order to implement the natural and cultural resource protection components of the preferred alternative. As a major element of this alternative's concept, additional staff would allow the parkway to pursue a comprehensive, ecosystem-based approach to natural resource management.

This would include strategies such as making inventory and management of natural resources more proactive; advancing regional ecosystem health through active partnerships with public and private entities; pursuing class I air quality classification and seeking NPS and non-NPS project funding for monitoring and influencing air quality standards in the region; and modifying landscape areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, to actively protect natural resources.

Additional staff in the Resource Management and Science Division would also allow the parkway to improve management of historic settlement sites as cultural landscapes. Examples include managing the fields at Brinegar Cabin to replicate the historic landscape and rehabilitating Saunders farm and the landscape at Johnson farm. Increased staffing would also allow the parkway to reestablish some closed vistas in accordance with the parkway’s designed landscape.

Three additional maintenance and engineering staff are needed to assist with the coordination of upgrades to campgrounds, picnic areas, trail systems, and visitor service facilities, as well as ongoing maintenance. The relatively small increase in this division’s staff is the result of making improvements to existing developments, rather than adding substantial new infrastructure to the parkway.

One additional full-time staff would be needed in the Planning, Lands, and Compliance Division in order to actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals. No additional staffing is needed to implement the preferred alternative in the superintendent’s office, administration and concessions, or law enforcement, safety, and emergency services.

**Alternative C.** The NPS staffing level necessary to implement alternative C would be the equivalent of 252 full-time staff members—77 additional FTEs compared to the total number of staff funded under the no-action alternative.

The Interpretation and Education Division would require 44 additional staff in order to expand visitor services at key locations along the parkway, again partially due to the switch from seasonal to permanent staff. This includes expanding visitor services from a six-month season to a nine-month season at six locations: James River, Blue Ridge Music Center, Linn Cove, Museum of North Carolina Minerals, Craggy Gardens, and Waterrock Knob. Furthermore, visitor services would be expanded to a 12-month visitor season at five locations along the parkway: Humpback Rocks, Peaks of Otter, Mabry Mill, Linville Falls, and the Folk Art Center.

Staff increases in the Interpretation and Education Division would also improve information and orientation services at the north and south entrances to the parkway, as well as in the Roanoke and Boone/Blowing Rock areas, which are major access points for visitors to the parkway. The goal would be to substantially increase visitor contacts over current levels. Staff increases would also improve interpretive media and educational programs at Humpback Rocks, Mabry Mill, the Blue Ridge Music Center, Cumberland Knob, and Craggy Gardens.

**TABLE 10. ADDITIONAL STAFFING FOR THE INTERPRETATION AND EDUCATION DIVISION**

	Alternative B (NPS Preferred)	Alternative C
Expand Visitor Services	20	32
Humpback Rocks	2	5
James River/Otter Creek	2	2
Peaks of Otter	2	5
Mabry Mill	2	5
Blue Ridge Music Center	2	2
Linn Cove	2	2
Linville Falls	2	4
Museum of North Carolina Minerals	1	1
Craggy Gardens	2	2
Folk Art Center	1	2
Waterrock Knob	2	2

**TABLE 10. ADDITIONAL STAFFING FOR THE INTERPRETATION AND EDUCATION DIVISION**

	Alternative B (NPS Preferred)	Alternative C
Enhance Information and Orientation Services	4	8
North Entrance	2	2
South Entrance	2	2
Roanoke	0	2
Boone/Blowing Rock	0	2
Improve Interpretive Media and Educational Programs	2	4
Humpback Rocks, Mabry Mill, and Cumberland Knob	1	1
Blue Ridge Music Center, and Craggy Gardens	0	1
Parkway-wide	1	2
<b>Total FTE</b>	<b>26</b>	<b>44</b>

Twenty-seven additional staff would be needed in the Resource Management and Science Division in order to implement the natural and cultural resource protection components of alternative C. As with the

preferred alternative, additional staff would allow the parkway to pursue a comprehensive, ecosystem-based approach to natural resource management.

This would include strategies such as making inventory and management of natural resources more proactive; advancing regional ecosystem health through active partnerships with public and private entities; and pursuing class I air quality classification and seeking NPS and non-NPS project funding for monitoring and influencing air quality standards in the region; and modifying landscape areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, to actively protect natural resources.

Additional staff in the Resource Management and Science Division would also allow the parkway to improve management of historic settlement sites as cultural landscapes. Examples include managing the fields at Brinegar Cabin to replicate the historic landscape and rehabilitating Saunders farm and the landscape at Johnson farm.

**TABLE 11. ADDITIONAL STAFFING FOR THE RESOURCE MANAGEMENT AND SCIENCE DIVISION**

	Alternative B (NPS Preferred)	Alternative C
Ecosystem Based Management Approach	22	21
Actively collaborate with adjacent landowners, county officials, developers, and other partners to conserve parkway views.	1	1
Pursue class I air quality classification and seek NPS and non-NPS funding for monitoring and influencing regional air quality standards.	1	1
Make inventory and management of natural resources more proactive. One-time nonfacility costs are needed to complete baseline inventories and condition assessments for vegetation and wildlife communities, special status species, wetlands, and other ecologically sensitive areas.	3	3
Shift wildlife management focus to a more ecosystem-based approach within the parkway; improve habitats external to the parkway boundary through partnerships.	7	7
Modify landscape areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, to actively protect natural resources; close vistas where necessary; reestablish some closed vistas.	5	5
Develop and implement a comprehensive parkway-wide strategy to control invasive plants.	5	5
Improve Management of Cultural Resources	5	5
<b>Total FTEs</b>	<b>27</b>	<b>27</b>

Five additional maintenance and engineering staff are needed to assist with the coordination of upgrades to campgrounds, picnic areas, trail systems, and visitor service facilities, as well as ongoing maintenance. The relatively small increase in this division’s staff is the result of making improvements to existing developments, rather than adding substantial new infrastructure to the parkway. New infrastructure proposed under this alternative (that would require additional maintenance compared to the preferred alternative) include three sections of the multiuse paved trail.

One additional full-time staff would be needed in the Planning, Lands, and Compliance Division in order to actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals. No additional staffing is needed to implement alternative C in the superintendent’s office, administration and concessions, or law enforcement, safety, and emergency services.

**One-time Facility Costs**

Overall one-time facility costs are included in table 12. Each category of cost is described in more detail, except for costs associated with the row labeled “upgrade select maintenance

facilities” because they are the same for alternatives B and C.

**Deferred Maintenance.** It is important that the cost estimates contain the same elements, and that they be developed with the same general assumptions, so that there can be consistency and comparability among alternatives. It is important to note that deferred maintenance costs are the same for all of the alternatives (alternatives A, B, and C).

In FY02, a comprehensive condition assessment was started for all parkway assets. The report has identified that the accumulated operational deficiencies have led to a \$395 million deferred maintenance backlog. This backlog represents 7% of the parkway’s \$5.4-billion cost of replacement value, the second highest cost of replacement value of any national park unit.

Alternatives B and C include costs that would partially address this deferred maintenance backlog. For example, the overall cost of fully implementing upgrades and enhancements to campground and picnic areas (\$42.7 million) includes costs to address at least \$13.9 million in deferred maintenance costs.

**TABLE 12. ESTIMATED ONE-TIME FACILITY COSTS TO IMPLEMENT THE ALTERNATIVES**

	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
Deferred maintenance	\$14,466,000	\$14,466,000	\$14,466,000
Upgrade select campgrounds and picnic areas	0	\$28,892,000	\$32,747,000
Upgrade select visitor service facilities	0	\$21,871,000	\$15,091,000
Improve select trail systems and access points	0	\$5,698,000	\$8,129,000
Rehabilitate select historic structures and associated cultural landscapes	0	\$995,000	\$1,584,000
Upgrade select maintenance facilities	0	\$1,111,000	\$1,111,000
Other one-time facility costs	0	\$960,000	\$2,983,000
<b>Total One-Time Facility Costs</b>	<b>\$14,466,000</b>	<b>\$73,994,000</b>	<b>\$76,112,000</b>

All cost estimates are in 2011 dollars.

The total \$14.5 million deferred maintenance amount shown in table 13 is only related to one-time facility costs. This amount represents the current projects included in the NPS facility management system associated with the one-time facility cost categories in this plan (campgrounds and picnic areas; visitor service facilities; trail systems and access points; and historic structures and associated cultural landscapes). These amounts do not include all of the deferred maintenance costs associated with parkway facilities, such as utility systems.

Examples of deferred maintenance include the hundreds of miles of roadside ditches and drains that have not been maintained properly and are now clogged with natural debris. Additionally, hundreds of miles of trails go virtually untouched by parkway staff, leading to severe trail erosion and overgrowth. When taking into account that \$250 million of the \$395 million backlog is associated with road-related maintenance, the proposed strategies of this plan would be a significant step towards achieving the long-term sustainability of aging parkway campgrounds, picnic areas, trail systems, and concession facilities.

**TABLE 13. ESTIMATED DEFERRED MAINTENANCE ADDRESSED BY ONE-TIME FACILITY COSTS**

Type of Deferred Maintenance	Deferred Maintenance Cost
Campgrounds and Picnic Areas	\$13,893,000
Visitor Service Facilities*	\$356,000
Historic Structures & Associated Cultural Landscapes	\$217,000
<b>Total Cost</b>	<b>\$14,466,000</b>

\*Includes only structures, not associated infrastructure and utilities.

**Upgrade Select Campgrounds and Picnic Areas.** Estimated one-time facility costs to upgrade select campgrounds and picnic areas are about \$3.8 million higher under alternative C than under alternative B. Table 14 shows that costs associated with alternative C are higher than for alternative B in all recreation areas, except for Roanoke Mountain, Cumberland Knob, and Julian

Price. The primary reason campground costs are higher under alternative C is because most campground costs under alternative C include costs to improve RV access and the ability of RVs to safely utilize campgrounds.

**TABLE 14. ESTIMATED ONE-TIME FACILITY COSTS TO UPGRADE SELECT CAMPGROUNDS AND PICNIC AREAS**

Location	Alternative B (NPS Preferred)	Alternative C
James River/ Otter Creek	\$2,376,000	\$5,093,000
Peaks of Otter	\$8,286,000	\$12,021,000
Roanoke Mountain	\$2,938,000	\$1,767,000
Smart View	\$0	\$1,114,000
Rocky Knob	\$2,952,000	\$4,882,000
Cumberland Knob	\$1,516,000	\$0
Doughton Park	\$3,843,000	\$3,843,000
Julian Price	\$15,818,000	\$4,997,000
Linville Falls	\$1,660,000	\$5,070,000
Crabtree Falls	\$1,934,000	\$6,392,000
Mt. Pisgah	\$1,463,000	\$1,463,000
Subtotal	\$42,785,000	\$46,640,000
Deferred Maintenance Offset	\$13,893,000	\$13,893,000
<b>Total Cost</b>	<b>\$28,892,000</b>	<b>\$32,747,000</b>

There are nine campgrounds on the parkway, totaling more than 1,050 campsites. Of this total, about 67% are tent sites and 33% are RV sites. Under alternative B, modest upgrades to campgrounds occur at eight of the nine campgrounds, whereas all nine would be upgraded under alternative C. These upgrades include upgrading certain comfort stations to provide showers and make them compliant with the Americans with Disabilities Act; enlarging select tent pads/sites to accommodate modern “family size” tents; and upgrading existing RV sites with water and electric hookups. In addition, major upgrades would occur at two of nine campgrounds under alternative B and five of nine under alternative C. Major upgrades include widening campground entrances and one of the loop roads; increasing turning radii and enlarging existing RV parking spaces to better accommodate larger RVs.



In addition, alternative C costs are higher than those of alternative B because the conversion of a portion of campsites to rental cabins at Peaks of Otter is more costly than the conversion of the entire Roanoke Mountain campground to a day use recreation area. There are no costs at Cumberland Knob associated with alternative C, whereas alternative B includes costs associated with additional trail and picnic infrastructure to accommodate future increases in day use recreation demand. Estimated costs at Julian Price are higher under alternative B primarily due to costs associated with improving RV access.

There are also one-time facility costs associated with six picnic areas. A majority of the costs under alternative B are related to reductions in and/or relocations of picnic area footprints to restore historic or natural resources. Under alternative C, the majority of the costs are associated with upgrades and improvements to picnic areas to better accommodate existing and future use and minimize resource impacts.

**Upgrade Select Visitor Service Facilities.** Estimated one-time facility costs associated with select visitor service facilities are primarily associated with upgrades to existing infrastructure, such as visitor contact stations and concession services, or adaptive reuse of such infrastructure. Costs under alternative B are approximately \$6.8 million higher than those under alternative C. The higher cost for alternative B reflects a desire to preserve the historic intent of the parkway and the traditional visitor experience by implementing strategies to ensure continuation of concession services. Such strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate. Much of the difference can be attributed to the difference in costs between alternatives B and C at Mabry Mill (see table 15).

**TABLE 15. ESTIMATED ONE-TIME FACILITY COSTS TO UPGRADE SELECT VISITOR SERVICE FACILITIES**

Location	Alternative B (NPS Preferred)	Alternative C
Humpback Rocks	\$0	\$167,000
James River/ Otter Creek	\$32,000	\$32,000
Peaks of Otter	\$3,556,000	\$320,000
Rocky Knob	\$695,000	\$168,000
Mabry Mill	\$9,490,000	\$792,000
Cumberland Knob	\$0	\$1,127,000
Doughton Park	\$8,149,000	\$8,149,000
Julian Price	\$305,000	\$0
Linville Falls	\$0	\$2,287,000
Crabtree Falls	\$0	\$309,000
Segments 3 & 4 Costs*	\$0	\$2,096,000
Subtotal	\$22,227,000	\$15,447,000
Deferred Maintenance Offset	\$356,000	\$356,000
<b>Total Cost</b>	<b>\$21,871,000</b>	<b>\$15,091,000</b>

\* Estimated costs associated with management of the Kelley School and adaptive reuse or removal of the Northwest Trading Post concession services structures.

**Improve Select Trail Systems and Access Points.** Table 16 shows one-time facility costs to improve select trail systems and access points. The total estimated costs are approximately \$2.4 million higher under alternative C than under alternative B. The costs associated with segment 1 are a primary reason for this difference. The estimated costs to work with the U.S. Forest Service to identify opportunities for wilderness/trail recreation and provision of parking lots and other support services to access such recreational opportunities are approximately \$3 million under alternative C. However, estimated costs at Humpback Rocks, Rocky Knob, and Linville Falls are greater under alternative B than under alternative C. For example, costs under alternative B at Humpback Rocks include costs to improve existing trails and potentially develop more trails to accommodate future increases in use levels and programs; alternative C does not include these costs.

**TABLE 16. ESTIMATED ONE-TIME FACILITY COSTS TO IMPROVE SELECT TRAIL SYSTEMS AND ACCESS POINTS**

Location	Alternative B (NPS Preferred)	Alternative C
Humpback Rocks	\$731,000	\$226,000
James River/Otter Creek	\$441,000	\$441,000
Rocky Knob	\$470,000	\$0
Mabry Mill	\$215,000	\$215,000
Doughton Park	\$3,312,000	\$3,312,000
Linville Falls	\$307,000	\$0
Craggy Gardens	\$158,000	\$396,000
Mt. Pisgah	\$65,000	\$65,000
Segments 1 & 6 Costs*	\$0	\$3,474,000
<b>Total Cost</b>	<b>\$5,698,000</b>	<b>\$8,129,000</b>

\* Estimated costs associated with providing access to recreational opportunities.

### Rehabilitate Select Historic Structures and Associated Cultural Landscapes.

The difference in estimated costs to rehabilitate select historic structures and associated cultural landscapes is shown in table 17. The estimated costs under alternative C are approximately \$600,000 more than under alternative B. The primary difference is that there are no costs associated with alternative B at Rocky Knob; costs under alternative C associated with managing the historic settlement site as a cultural landscape are approximately \$750,000.

**TABLE 17. ESTIMATED ONE-TIME FACILITY COSTS TO REHABILITATE SELECT HISTORIC STRUCTURES AND ASSOCIATED CULTURAL LANDSCAPES**

Location	Alternative B (NPS Preferred)	Alternative C
Peaks of Otter	\$862,000	\$705,000
Rocky Knob	\$0	\$747,000
Mt. Pisgah	\$350,000	\$350,000
Subtotal	\$1,212,000	\$1,801,000
Deferred Maintenance Offset	\$217,000	\$217,000
<b>Total Cost</b>	<b>\$995,000</b>	<b>\$1,584,000</b>

### Other One-Time Facility Costs

The total estimate of other one-time facility costs for implementing alternative C is approximately \$2 million greater than for alternative B. The primary difference is the \$1.8 million associated with removing the dam and spillway at James River/Otter Creek.

### One-time Nonfacility Costs

One-time nonfacility costs under alternative A include the development of five cultural landscape reports and a wetlands management plan (\$500,000). As compared to alternative A, costs under alternative B are approximately \$3.3 million higher and those under alternative C are about \$4.5 million higher. Of this difference, approximately \$2.3 million under alternative B and \$2.8 million under alternative C are associated with costs related to a more comprehensive parkway-wide approach to resource management.

### Other Costs

Other costs include the construction of grade separation structures, development of a paved multiuse path parallel to but separate from the parkway, and a shuttle system. The National Park Service would likely need to pursue other funding sources for such construction. Under alternatives B and C, the largest cost in this category is the construction of 19 grade-separation structures, estimated to be about \$54 million. Funding of the construction of grade separation structures could be funded partially through a combination of state highway improvement funds, the Federal Lands Highway Program, and/or NPS line-item construction funding. Additional costs include the construction of paved, multiuse trail segments that are parallel to, but separate from, the parkway in the Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville areas under alternative C (\$102.3 million). Alternative C also includes approximately \$1.8 million to potentially provide staging for a shuttle system in cooperation with the city of Asheville.

## ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative is defined as “the alternative that will promote national environmental policy as expressed in section 101 of the National Environmental Policy Act.” Section 101 states that it is the continuing responsibility of the federal government to

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural, and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity, and a variety of individual choices;

- achieve a balance between population and resource use which would permit high standards of living and a wide sharing of life’s amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

A description of how each alternative would or would not achieve the requirements of sections 101 and 102(1) of the National Environmental Policy Act criteria is provided below and illustrated through a rating system in table 18.

Three of the above criteria did not make a difference in determining the environmentally preferable alternative. Criterion 1 is satisfied by all the alternatives: the Blue Ridge Parkway is already a national park system unit and as a trustee of this area the National Park Service would continue to fulfill its responsibilities to protect this area for future generations.

**TABLE 18. ENVIRONMENTALLY PREFERABLE ALTERNATIVE ANALYSIS**

Criteria	Alternatives		
	A	B	C
1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.	5	5	5
2. Ensure safe, healthful, productive, and aesthetically and culturally pleasing surroundings for all Americans.	5	5	5
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.	3	5	4
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices.	4	5	5
5. Achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities.	3	5	5
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.	5	5	5
<b>Total Points*</b>	<b>25</b>	<b>30</b>	<b>29</b>

\*Five points were given to the alternative if it fully meets the criteria; four points if it meets nearly all of the elements of the criteria; three points if it meets more than one element of the criteria; two points if it meets only one element of the criteria; and one point if the alternative does not meet the criteria.

The difference between the alternatives in this regard is not appreciable. Likewise, all the alternatives being considered are intended to meet criterion 2: provide for all Americans a safe experience in a visually pleasing environment. This is also the case for criterion 6. All of the alternatives would result in enhancing the quality of renewable resources and recycling through NPS management.

Alternative C includes more emphasis on resource preservation and enhancement (e.g., greater portion of parkway lands are zoned natural); however, it limits the beneficial uses that could be derived from recreational opportunities. Conversely, alternative B places greater emphasis on enhancing outdoor recreational opportunities without degrading the park's environment. The no-action provides less beneficial uses because the primary emphasis of the parkway is on the existing self-contained driving experience. Alternative B best meets criterion 3, alternative C partially meets it, while the no-action fulfills it the least.

Alternative B best preserves important historic and cultural aspects of our national heritage represented on the parkway. It best preserves the original design intent of the parkway and ensures the long-term viability of the historic lodges and other historic resources. Alternative C best preserves picturesque Appalachian scenery and important natural resources of the parkway. It also would enhance visitors' ability to connect, explore, and learn about the region's natural and cultural heritage. Although each of these

alternatives preserves our national heritage in different ways, they both fully meet criterion 4. The no-action alternative focuses on the historic and cultural aspects of the parkway with less emphasis on the natural environment, and therefore, only partially meets criterion 4.

Alternatives B and C would place more emphasis on reaching out to communities and linking to regional natural, recreational, and cultural heritage resources and experiences. Examples include linking parkway recreational areas to adjacent off parkway locations to enhance recreational opportunities. Alternatives B and C would enhance the visitor experience and provide greater access to regional amenities; therefore, both action alternatives fully meet criterion 5. The no-action alternative continues to focus on the self-contained driving experience for which the parkway was originally designed. Although this enhances the standard of living and provides recreational amenities for people, it is more limited in scope compared to alternatives B and C.

Both alternatives B and C surpass the no-action alternative in meeting the full range of goals stated in section 101 of the National Environmental Policy Act. Both alternatives fully meet criteria 1, 2, 4, 5, and 6. Alternative B better meets criterion 3 because it places greater emphasis on enhancing outdoor recreational opportunities without degrading the park's environment. As a result, the analysis of the six criteria reveals alternative B is the environmentally preferable alternative.

## ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

Early in the alternatives development process, four alternatives were drafted, including one that the planning team called “Alternative 2: The Parkway as a Corridor that Links Regional Natural and Cultural Heritage.” This alternative emphasized the idea that the parkway is a vibrant asset to regional cultural and natural networks. As such, the parkway visitor would be encouraged to connect physically and intellectually to the places and stories that relate the park’s resources to communities and those communities to the park. Some of the resource and visitor use ideas associated with this alternative included the following:

- Look at the parkway as a gateway to a series of regional areas rich in natural and cultural heritage and scenery. Encourage visitors to venture into these regions.
- Parkway visitor centers would become more like regional heritage information centers.
- The parkway would become a seamless partner within these communities in heritage tourism, viewshed and resource protection, and education outside of park boundaries.
- The parkway would link up with regional and national heritage corridors.
- Certain visitor services along the parkway would be reduced, giving local communities more opportunities to benefit by providing services.

The team did a comparison of that alternative to the other two action alternatives to determine how much overlap there was between the zoning decisions of this alternative and the others. The team found considerable overlap and dismissed this alternative due to its duplication with the other action alternatives. The team decided to incorporate aspects of what was called alternative 2 into the other alternatives for the following reasons:

- Much of what was important about alternative 2 was programmatic and addressed by a) how the parkway would operate in cooperation with neighboring communities and b) how the parkway might better recognize community values through adjustments to interpretation and visitor orientation. These “how” level ideas did not result in enough differences in management prescriptions and zoning to support a distinct general management plan-level alternative.
- The “hows” contained in alternative 2 could be accommodated in the other two action alternatives. To isolate these ideas in a separate alternative seemed to communicate that the parkway would not focus on communities unless that alternative became the preferred. The team decided this was not the right message and thought the general management plan should discuss cooperation and recognition of community values as “standard operating procedure” for the park, regardless of the alternative selected as the plan.
- As alternative 2 was being developed, it seemed to be the only alternative for proposals involving increased development on the parkway, thus unfairly “loading” the alternative. Increased recognition of parkway neighbors does not necessarily equate to more development, higher levels of recreation, or compromises to parkway values. Yet, alternative 2 was in danger of being equated with those things. The team decided the alternatives are better balanced by including some of the development ideas with each of alternatives 1 (now B) and 3 (now C).

## COMPARISON OF PARKWAY-WIDE MANAGEMENT STRATEGIES BY ALTERNATIVE

Table 19 provides a comparison of parkway-wide management strategies by alternative. The table is organized to describe the effect of each alternative on the following management topics:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>▪ Scenery conservation</li> <li>▪ Soundscapes</li> <li>▪ Land protection</li> <li>▪ Natural resources</li> </ul> | <ul style="list-style-type: none"> <li>▪ Cultural resources</li> <li>▪ Interpretation and visitor services</li> <li>▪ Concessions</li> <li>▪ Access and circulation</li> <li>▪ Campgrounds</li> <li>▪ Trails</li> <li>▪ Partnerships</li> </ul> |
|---|---|

**TABLE 19. SUMMARY COMPARISON OF THE ALTERNATIVES**

<b>ALTERNATIVE A: Continuation of current management practices</b>	<b>ALTERNATIVE B (NPS Preferred): Emphasis on original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional natural resource connectivity</b>	<b>ALTERNATIVE C: Increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services.</b>
Scenery Conservation		
Complete the baseline evaluation of the quality and condition of off-parkway scenic views as seen from parkway overlooks and roadside vistas.	Same as alternative A. Using the baseline evaluation as a guide, identify views along the parkway to be protected.	Same as alternative B.
As opportunities arise, and especially as impending land use changes threaten to diminish views from the parkway, use the baseline evaluation to work with adjacent landowners, county officials, developers, land trusts, and other partners to conserve the idealized scenes of the central and southern Appalachians through land purchases, easements, or creative partnerships with landowners, land trusts, and municipalities.	Actively collaborate with adjacent landowners, county officials, and developers on a site-specific project basis to conserve priority scenery.  Actively collaborate with adjacent landowners, county officials, and developers on a site-specific project basis to conserve priority scenery. In addition, the parkway would work with its partners to provide leadership for regional efforts among adjacent landowners; local, state, and federal officials; and developers to establish long-term strategies for conserving views from the parkway.	Same as alternative B.

**TABLE 19. SUMMARY COMPARISON OF THE ALTERNATIVES**

<b>ALTERNATIVE A: Continuation of current management practices</b>	<b>ALTERNATIVE B (NPS Preferred): Emphasis on original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional natural resource connectivity</b>	<b>ALTERNATIVE C: Increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services.</b>
<b>Soundscapes</b>		
The parkway does not have formal management strategies for soundscapes.	Develop and implement management strategies, including educational and interpretive programs, highlighting the importance of acoustic resources and soundscapes. Park management should consider ways to reduce their own noise footprint, as well as those caused by visitors or outside sources. Encourage visitors to be respectful of others by not producing excessive noise. Collaborate with adjacent property owners; appropriate federal, state, and local agencies; and organizations to reduce noise. Consider implementing special use permits for organized groups and/or events. Enforce existing noise ordinances (36 CFR section 2.12).	Same as alternative B.
<b>Land Protection</b>		
Continue to acquire interests in lands adjoining the parkway boundary from willing sellers to eliminate private road accesses (consistent with parkway legislation), to consolidate irregular portions of the parkway boundary that are difficult to manage, and to conserve tracts of land of moderate to high scenic quality (see also Scenery Conservation, above).	Same as alternative A, with the additional option of acquiring interests in lands for protection of natural, cultural, and recreational resources and seeking regional partnerships to provide for additional options to protect resources.	Same as alternative B.
Continue to amend the current land protection plan on an as-needed basis without an overall land protection strategy.	Implement a land protection strategy that does not identify specific tracts of land, but establishes (1) resource and visitor use management criteria, (2) park management zoning and land use compatibility factors, and/or (3) other protection goals that would be used to evaluate the merits of a property when it becomes available from willing sellers. Proactively seek out willing sellers for high-priority parcels.	Same as alternative B.
<b>Natural Resources Management</b>		
Inventory and management of natural resources continues to be primarily site-specific and reactive to laws and policies, visitor safety concerns, and projects in the parkway.	Make inventory and management of natural resources more proactive, incorporating a long-term approach that actively strives to advance regional ecosystem health through active partnerships with public and private entities.	Same as alternative B.

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Continue to plan the natural resource program on an annual basis, thus discouraging the implementation of multiyear projects and engaging partners on a project-specific basis.	Establish a multiyear planning process for the natural resource program to implement multiyear projects.	Same as alternative B.
Continue to manage the parkway as a class II air quality park; this classification does not qualify the parkway for funding to monitor and influence-air quality standards in the region.	Pursue class I air quality classification and seek NPS and non-NPS project funding for monitoring and influencing air quality standards in the region.	Same as alternative B.
Continue to manage wildlife with a focus primarily on individual and nuisance species.	Shift wildlife management focus to a more ecosystem-based approach in the region and consider strategies to maintain and improve habitat connectivity along and across the parkway corridor.	Same as alternative B.
Manage invasive flora and fauna only where they affect threatened and endangered species. Continue to work with partners on site-specific projects.	Shift management of invasive flora and fauna from reactive, site-specific management to more comprehensive parkway-wide and regional strategies.	Same as alternative B.
Continue to manage designed landscape features, such as human-made lakes, for scenic and recreational purposes.	Same as alternative A.	Possibly convert some human-made water features to natural habitat.
Continue to manage roadsides, vista clearings, and agricultural leases primarily for scenic qualities. Vista management strategies would continue to incorporate habitat mitigation measures to protect Carolina northern flying squirrel.	Modify some landscape areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, to actively protect natural resources. Improve habitat external to the parkway boundary through work with partners.	Same as alternative B.
<b>Cultural Resources Management</b>		
<p>Common to all alternatives:</p> <p>Seek designation of the designed parkway corridor as a national historic landmark while continuing to manage it as an eligible resource. The principal components of this designed landscape are the parkway road with its supporting structures and constructed landforms, a scenic corridor provided by a broad right-of-way, a chain of 17 original and 3 more recent recreation areas, and a variety of exhibits interpreting the natural and cultural histories of the region.</p> <p>Continue to give priority for preservation to cultural resources that are determined to contribute to the national significance of the parkway, as established in the national historic landmark nomination underway. The national register eligibility of cultural resources that are not found to contribute to the national significance of the parkway as a whole would be determined individually.</p> <p>Continue to manage currently maintained vistas above 4,000 feet elevation, but determine their size and configuration by best practices for managing the potential habitat of sensitive species.</p>		



**TABLE 19. SUMMARY COMPARISON OF THE ALTERNATIVES**

<b>ALTERNATIVE A: Continuation of current management practices</b>	<b>ALTERNATIVE B (NPS Preferred): Emphasis on original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional natural resource connectivity</b>	<b>ALTERNATIVE C: Increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services.</b>
<p>Where operationally feasible, continue to use the historic Parkway Land Use Maps, which document the as-built conditions and desired future maintenance standards for the designed landscape, as a guide for maintenance of the parkway road prism within available funding resources.</p> <p>When an endangered species is present or a similar natural resource issue occurs, modify the management of cultural resources on a case-by-case basis.</p>	<p>Update the historic Parkway Land Use Maps to protect the parkway’s historic integrity while accommodating newer law and policy requirements and operational constraints.</p>	<p>Create new parkway land use maps that would restore the parkway’s original design intent that expresses viewsheds and landscapes of Southern and Central Appalachia. This would allow for minor deviations from the parkway’s physical features when necessary.</p>
<b>Interpretation and Visitor Services</b>		
<p>Common to all alternatives: Continue to implement curriculum-based school outreach programs using current staffing levels at schools and in the parkway, as available, during the school year.</p>		
<p>Continue to operate a six-month visitor season, providing interpretive activities and visitor services at a basic level.</p>	<p>Expand operations at selected locations to provide services for a nine-month visitor season. These locations include: Humpback Rocks, James River, Peaks of Otter, Mabry Mill, Blue Ridge Music Center, Linn Cove, Linville Falls, Museum of North Carolina Minerals, Craggy Gardens, Folk Art Center, and Waterrock Knob.</p>	<p>Expand operations at selected locations to provide services for a nine-month visitor season. These locations include: James River, Blue Ridge Music Center, Linn Cove, Museum of North Carolina Minerals, Craggy Gardens, and Waterrock Knob.</p> <p>Expand operations to provide services for a 12-month visitor season at select locations. These locations include: Humpback Rocks, Peaks of Otter, Mabry Mill, Linville Falls, and the Folk Art Center.</p>
<p>Continue visitor education using publications and waysides.</p>	<p>Increase visitor education using publications and waysides and emerging technology.</p>	<p>Same as alternative Band expand the parkway’s active participation in regional heritage tourism projects.</p>
<p>At the parkway’s 14 visitor contact stations, have park and partner staff continue to contact about 1 million of the 21 million annual visitors.</p>	<p>Substantially increase the number of visitors contacted over current levels by providing visitor orientation services at underserved parkway entrances, particularly the northern and southernmost entrances.</p>	<p>Same as alternative B; also provide regional visitor information services at Roanoke and Boone/Blowing Rock areas.</p>
<p>Continue to maintain 20 recreation areas along the length of the parkway with traditional visitor services that support a recreational and scenic driving experience, including camping, lodging, restaurants, camp stores, and picnic sites.</p>	<p>Same as alternative A. Ensure that in the future these traditional recreation services remain a high priority and are enhanced, as needed, to respond to increases in visitor demand. This could be accomplished through hardening trails, providing overflow parking, and developing additional picnic sites, among other actions.</p>	<p>Maintain flexibility of the design and function of all recreation areas and infrastructure, especially in the visitor services zones, to adapt to changing visitor use needs. Ensure that the management of visitor needs and resource values are well balanced and that visitors have opportunities for solitude and contemplation.</p>

**TABLE 19. SUMMARY COMPARISON OF THE ALTERNATIVES**

<b>ALTERNATIVE A: Continuation of current management practices</b>	<b>ALTERNATIVE B (NPS Preferred): Emphasis on original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional natural resource connectivity</b>	<b>ALTERNATIVE C: Increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services.</b>
<b>Concessions</b>		
Continue to offer concession services, primarily lodging and food, at some locations where economically feasible. Concession services that are no longer economically viable would be eliminated. The structures housing those services would either be adaptively used or removed (except for those eligible for listing on the national register).	Continue to find ways to provide viable concession services at all existing locations to ensure the long-term availability of in-parkway lodging, food, and other services. Strategies might include making upgrades to existing infrastructure and/or adding new facilities where appropriate.	As in alternative A, continue to offer concession services, primarily lodging and food, at some locations where economically feasible. Where concession services are eliminated, the parkway would look to the private sector in communities outside the parkway to provide those services. The structures housing those services would either be adaptively used or removed (except for those eligible for listing on the national register).
<b>Access and Circulation</b>		
Common to all alternatives: Continue the moratorium on secondary road improvement projects in both Virginia and North Carolina until a comprehensive corridor access management plan and environmental impact statement are completed. Only address road improvements that are necessary to ensure public health and safety outside the comprehensive planning and compliance process. Continue to evaluate primary state and federal highway improvements or new construction projects on a project-by-project basis.		
Continue to allow nonrecreational local and commuter traffic to increase as rural and urban lands adjacent to the parkway are developed for residential and commercial purposes.	Accomplish management of some nonrecreational local and commuter traffic by replacing at-grade crossings with new grade separation structures (some without access between the parkway and state road).	Same as alternative B. Working with partners in parkway urban areas, consider extension of existing mass transit connections as well as public and private shuttle systems to provide alternative transportation to parkway visitor facilities, where feasible.
<b>Campgrounds</b>		
Continue to operate the parkway’s nine campgrounds, including future repairs and rehabilitations focused on meeting backlog maintenance needs.	Continue to operate eight of the parkway’s existing campgrounds, including future repairs and rehabilitations focused on meeting backlog maintenance needs. Convert the Roanoke Mountain campground to a day use recreation area. Collaborate with local communities and other park partners to consider innovative ways to effectively manage Roanoke Mountain over the interim of this conversion from a campground to a day use area.	Continue to operate the parkway’s nine campgrounds, including future repairs and rehabilitations focused on meeting backlog maintenance needs.
Upgrade selected campground comfort stations to provide showers and universal accessibility.	Upgrade selected campground comfort stations to provide showers. Upgrade all campground comfort stations to be universally accessible.	Same as alternative B.
Maintain existing tent sites, including many small sites that do not adequately accommodate large, family sized tents.	Enlarge selected tent sites to better accommodate family sized tents.	Same as alternative B.
Maintain amphitheaters to provide ongoing interpretive programs for visitors.	Upgrade certain amphitheaters to better accommodate visitors during interpretive programs.	Same as alternative B.

**TABLE 19. SUMMARY COMPARISON OF THE ALTERNATIVES**

<b>ALTERNATIVE A: Continuation of current management practices</b>	<b>ALTERNATIVE B (NPS Preferred): Emphasis on original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional natural resource connectivity</b>	<b>ALTERNATIVE C: Increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services.</b>
Maintain existing RV camping without water and electrical hookups at all campgrounds.	Upgrade existing RV sites with water and electrical hookups at all campgrounds, except at Roanoke Mountain.	Upgrade existing RV sites with water and electrical hookups at all campgrounds.
Maintain existing access at all campgrounds, including that which does not adequately accommodate larger RVs (i.e., narrow roads, tight turns, and small parking spaces).	Improve RV access to portions of campgrounds at Peaks of Otter and Julian Price. Upgrades at these campgrounds would include such things as widening the campground entrance and one of the loop roads, increasing turning radii, and enlarging existing RV parking spaces. Only a portion of the RV spaces at the campgrounds would be redesigned to better accommodate RVs.	Improve RV access for existing campgrounds at James River/Otter Creek, Peaks of Otter, Rocky Knob, Linville Falls, and Crabtree Falls. Upgrades at these campgrounds would include such things as widening the campground entrance and one of the loop roads, increasing turning radii and enlarging existing RV parking spaces. Only a portion of the RV spaces at the campgrounds would be redesigned to better accommodate RVs.
<b>Trails</b>		
<p>Common to all alternatives:</p> <p>Work in partnership with the managers of the Appalachian National Scenic Trail to avoid sensitive resource areas by relocating some trail sections. Work with volunteer organizations and the state of North Carolina to complete the Mountains-to-Sea Trail within the parkway boundary where feasible.</p>		
Continue to allow bicycling on the main parkway road and other parkway roads, recognizing that bicyclists would be sharing the road with higher volumes of motorized traffic, especially in the more urbanized areas of the parkway.	<p>Same as alternative A.</p> <p>Strive to close and restore undesignated social trails in the parkway as much as possible, particularly when the undesignated trails are known to be causing notable negative impacts to natural resources, visitor experiences, or adjacent neighborhoods. Ensure that undesignated social trails are not authorized within the parkway and any future designated connections to parkway trails would only be developed on public lands in collaboration with the associated local land management agencies.</p> <p>Develop adequate, formal parking areas for designated parkway trails to ensure visitor safety, protect resources, and preserve community character in adjacent or nearby neighborhoods.</p>	<p>Same as alternative A.</p> <p>Pursue development of paved, multiuse trails parallel to but separate from the parkway in the Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville urban areas to enhance opportunities for pedestrians and bicyclists to safely recreate in the parkway corridor where traffic levels are higher and opportunities to link to regional trail systems are available.</p> <p>Strive to close and restore undesignated social trails in the parkway as much as possible, particularly when the undesignated trails are known to be causing notable negative impacts to natural resources, visitor experiences, or adjacent neighborhoods. And, ensure that undesignated social trails are not authorized within the parkway and any future designated connections to parkway trails would only be developed on public lands in collaboration with the associated local land management agencies.</p> <p>Develop adequate, formal parking areas for designated parkway trails to ensure visitor safety, protect resources, and preserve community character in adjacent or nearby neighborhoods.</p>

**TABLE 19. SUMMARY COMPARISON OF THE ALTERNATIVES**

<b>ALTERNATIVE A: Continuation of current management practices</b>	<b>ALTERNATIVE B (NPS Preferred): Emphasis on original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional natural resource connectivity</b>	<b>ALTERNATIVE C: Increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services.</b>
Continue to allow equestrian use on designated trails.	Develop improvements for equestrian use in designated areas.	Consider connections to regional equestrian trails.
<b>Partnerships</b>		
Allow the parkway’s active partnership program to continue to grow and develop. Continue current pace, growth, and evolution of partnerships. Respond on a case-by-case basis to requests for new partnerships with public and private entities in joint ventures.	Actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals. Explore broader base of partnerships.	Same as alternative B.

## SUMMARY OF THE IMPACTS OF THE ALTERNATIVES

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
Vegetation and Wildlife	<p>Alternative A would continue to have long-term minor to moderate adverse local to regional impacts on the vegetation and wildlife communities of the parkway. This alternative would also continue to have long-term negligible to moderate beneficial local to regional impacts on these resources. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described previously, would result in long-term minor to moderate adverse local to regional impacts and long-term minor to moderate beneficial local to regional cumulative effects. This alternative's contribution to these effects would be relatively small.</p>	<p>Alternative B would have short- and long-term minor to moderate local adverse impacts and long-term negligible to moderate local to regional beneficial impacts on the vegetation and wildlife communities of the parkway. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative's contribution to these adverse cumulative effects would be relatively small. However, due to the parkway's importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.</p>	<p>Alternative C would have short- and long-term minor to moderate and local adverse impacts and long-term negligible to moderate local to regional beneficial impacts on the overall vegetation and wildlife communities of the parkway. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative's contribution to these adverse cumulative effects would be small. However, due to the parkway's importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.</p>
Federal and State Listed Species	<p>Implementation of the no-action alternative would result in long-term negligible to minor local to regional beneficial effects on threatened and endangered species of the parkway from new vista management strategies and poaching and invasive plant controls. It would also have long-term minor adverse local to regional effects from sensory-based disturbances caused by park operations and visitor use and habitat alteration caused by recreational use (e.g., off-trail vegetation trampling). Impacts of the no-action alternative, combined with the impacts of other past, present, and</p>	<p>Alternative B would have long-term minor to moderate beneficial local to regional impacts and short- and long-term negligible to minor local to regional adverse impacts on federal and state listed threatened and endangered species. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species. This alternative's contribution to these adverse</p>	<p>Alternative C would have long-term minor to moderate local to regional beneficial impacts, and short- and long-term negligible to minor local to regional adverse impacts on federal and state listed threatened and endangered species. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse local and regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species. This alternative's contribution to these adverse</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	<p>reasonably foreseeable future actions, would result in long-term minor to moderate adverse local to regional effects and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative's contribution to these cumulative effects would be small.</p> <p>For alternative A, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be <i>may affect / not likely to adversely affect</i>.</p>	<p>cumulative effects would be small. However, due to the parkway's importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.</p> <p>For alternative B, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be <i>may affect / not likely to adversely affect</i>.</p>	<p>cumulative effects would be slight. However, due to the parkway's importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.</p> <p>For alternative C, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be <i>may affect / not likely to adversely affect</i>.</p>
Geologic Resources and Soils	<p>The no-action alternative would have a short- and long-term minor to moderate adverse local to regional impact on geologic resources and soils. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts. This alternative's contribution to these effects would be small.</p>	<p>Alternative B would have long-term minor to moderate beneficial local to regional impacts and short- and long-term minor to moderate adverse local to regional impacts. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local cumulative impacts. However, this alternative's contribution to these cumulative effects is expected to be relatively small.</p>	<p>Alternative C would have long-term minor beneficial local to regional impacts and long-term moderate adverse local to regional impacts on soils. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse, local to regional cumulative impacts and long-term minor beneficial local to regional cumulative impacts. However, this alternative's contribution to these cumulative effects is expected to be relatively small.</p>
Water-Related Resources	<p>The no-action alternative would have short- and long-term minor to moderate adverse local to regional impacts and long-term minor beneficial local to regional impacts on wetlands, riparian areas, floodplains, streams, and water quality. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term, minor beneficial local to regional cumulative</p>	<p>Alternative B would have long-term minor to moderate beneficial local to regional impacts and short- and long-term minor to moderate adverse local to regional impacts on water-related resources. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative's</p>	<p>Alternative C would have long-term minor to moderate beneficial local to regional impacts and short- and long-term minor to moderate adverse local to regional impacts on water-related resources. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional impacts and long-term minor to moderate beneficial local to regional impacts.</p> <p>This alternative's contribution to these</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	impacts. Alternative A would contribute a considerable amount to the beneficial cumulative effects, but only a small amount to the adverse cumulative effects.	contribution to these cumulative impacts would be small for adverse effects and considerable for beneficial effects.	cumulative impacts is expected to be small for the adverse effects and considerable for the beneficial effects.
Air Quality	Implementing the no-action alternative would result in long-term minor adverse regional impacts on the air quality of the parkway. There would be long-term minor to moderate adverse regional cumulative impacts and long-term minor beneficial regional cumulative impacts on air quality. However, this alternative's contribution to these effects would be small.	Implementing alternative B would result in long-term minor adverse regional effects and long-term minor to moderate beneficial regional effects on the air quality of the parkway. There would be long-term minor to moderate adverse regional cumulative impacts and long-term minor to moderate beneficial regional cumulative impacts on air quality. This alternative's contribution to these cumulative effects would be small.	Implementing alternative C would result in long-term minor adverse regional effects and long-term minor to moderate beneficial regional effects on the air quality of the parkway. There would be long-term minor to moderate adverse regional cumulative impacts and long-term minor to moderate beneficial regional cumulative impacts on air quality. This alternative's contribution to these cumulative effects would be small.
Historic Structures	Alternative A would have long-term minor to moderate adverse impacts and long-term beneficial impacts on historic structures. Impacts of this alternative, combined with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in local long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these adverse impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.	Alternative B would have long-term minor to moderate adverse impacts and long-term negligible to moderate beneficial impacts on the historic structures. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, alternative B's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be a minor to moderate adverse effect for historic structures and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.	Alternative C would have long-term site-specific minor to moderate adverse impacts and long-term beneficial impacts on historic structures. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.
Cultural Landscapes	Alternative A would have site-specific, short- and long-term minor to moderate adverse impacts and long-term negligible to moderate beneficial impacts on the cultural	Alternative B would have short- and long-term minor to moderate adverse impacts and long-term beneficial impacts on the cultural landscapes along the parkway. Impacts of	Alternative C would have short- and long-term minor to moderate adverse impacts and long-term beneficial impacts on the cultural landscapes. Impacts of this alternative,

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	<p>landscapes. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.</p>	<p>this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in site-specific, short- and long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.</p>	<p>combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate site-specific adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.</p>
Archeological Resources	<p>Alternative A would have permanent site-specific minor to moderate adverse impacts when considering the overall archeological resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in permanent moderate to major adverse and beneficial cumulative effects. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, alternative A's contribution to these effects would be small.</p>	<p>Alternative B would have permanent minor to moderate adverse impacts and permanent negligible to moderate beneficial impacts on the archeological resources. Impacts associated with other past, present, and reasonably foreseeable actions are the same as described under alternative A. As described above, implementation of alternative B would result in both long-term beneficial and minor to moderate permanent adverse effects to archeological resources. The impacts of alternative B, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a permanent moderate to major adverse cumulative effect. The adverse effects of alternative B, however, would be a small component of the adverse cumulative impact.</p>	<p>Alternative C would have permanent minor to moderate adverse impacts and permanent negligible to moderate beneficial impacts on the archeological resources. Impacts associated with other past, present, and reasonably foreseeable actions are the same as described under alternative A. As described above, implementation of alternative C would result in both long-term beneficial and minor to moderate permanent adverse effects to archeological resources. The impacts of alternative C, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a permanent moderate to major adverse cumulative effect. The adverse effects of alternative C, however, would be a small component of the adverse cumulative impact.</p>



**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
Ethnographic Resources	<p>Alternative A would have long-term beneficial and negligible to minor short-term adverse impacts when considering the overall ethnographic resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local, site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in long-term moderate to major adverse and some long-term beneficial cumulative effects. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative’s contribution to these effects would be small.</p>	<p>Alternative B would have long-term beneficial negligible to minor short-term adverse impacts when considering the overall ethnographic resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in long-term moderate to major adverse and some long-term beneficial cumulative effects. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative’s contribution to these effects would be small.</p>	<p>Alternative C would have long-term beneficial and negligible to minor short-term adverse impacts when considering the overall ethnographic resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in long-term moderate to major adverse and some long-term beneficial cumulative effects.</p>
Visual Resources	<p>Parkway management currently makes efforts to increase protection of visual resources. These efforts include a spectrum of management activities aimed at managing landscape elements consistent with the original Parkway Land Use Maps and maintaining relationships to encourage scenery protection and learn about future plans for land use changes. As information becomes available, the parkway is able to react to opportunities to try to protect or mitigate changes to individual parcels through easements, acquisition from willing sellers, and other arrangements. These management activities have long-term minor to moderate beneficial impacts on helping protect the quality of the parkway’s visual resources, especially at a local scale for areas adjacent to the parkway.</p>	<p>The preferred alternative takes a substantial step toward moving the parkway into a much more proactive role in visual resource management. This includes implementing zoning management inside the parkway boundary that includes historic parkway and scenic character zones, actively advancing a program of regional ecosystem health, prioritizing external views for protection, establishing criteria to evaluate the merits of lands available for acquisition, and actively pursuing resource protection with a broader base of public and private entities. Establishing the parkway as a class I air quality classification would improve the parkway’s ability to comment on local and regional projects that affect the quality of visual resources. All of these actions would combine to have a moderate impact on improving the parkway’s ability to protect its visual resources.</p>	<p>Alternative C has the greatest potential of moving the parkway into a much more proactive role in visual resource management. This includes implementing zoning management inside the parkway boundary that includes historic parkway and scenic character zones, actively advancing a program of regional ecosystem health, prioritizing external views for protection, establishing criteria to evaluate the merits of lands available for acquisition, and the parkway becoming a regional leader in helping establish long-term strategies for parkway view conservation. Establishing the parkway as a class I air quality classification would improve the parkway’s ability to comment on local and regional projects that affect the quality of visual resources.</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	<p>Given the extent of the viewshed along 469 miles of parkway, the inability of park management to track and react to all potential changes, the contributing effect of growth in many of the adjacent counties, and the ongoing county and city efforts to protect some visual resources, the cumulative impacts would be long-term, moderate, and adverse on visual resources on a local and regional scale and long-term, minor, and beneficial on a local scale. This alternative's contribution to these effects would be small, although the parkway's secondary road improvement moratorium would continue to contribute a considerable amount to visual resource protection on lands immediately adjacent to the park.</p>	<p>Given the extent of the viewshed along 469 miles of parkway, the contributing effect of rapid growth in many of the adjacent counties, the improved ability of park management to be able to track and act on land protection opportunities, and ongoing land protection efforts by local entities, there would be long-term moderate adverse effects on visual resources at a regional scale. This alternative would contribute a considerable amount to reducing those adverse effects relative to alternative A.</p>	<p>Given the extent of the viewshed along 469 miles of parkway, the contributing effect of rapid growth in many of the adjacent counties, the substantially improved ability of park management to be able to track and act on land protection opportunities, and ongoing land protection efforts by local entities, the cumulative impacts on visual resources would be long-term moderate adverse effects on visual resources at a regional scale. This alternative would contribute a considerable to large amount to reducing those adverse effects relative to alternative A.</p>
<p>Visitor Use and Experience</p>	<p><b>Access, Circulation, and Safety:</b> Continued popularity of the parkway in general, ongoing population growth and related development surrounding the parkway, would result in increasing use levels along the parkway. Local commuter traffic in urban areas of the parkway would continue to impact visitor traffic, as commuters tend to drive at higher speeds and are less patient of visitor drivers. As a result, the quality of the recreational driving experience would continue to be adversely affected. Overall, long-term adverse impacts on the visitor experience would primarily result from increased local nonrecreational traffic, peak season crowding, limited parking at popular sites, conflicts between motorists and motorcyclists and bicyclists, and personal safety concerns at isolated overlooks. These impacts would be mostly local and isolated. Visitors are already aware of these issues as they have expressed concern about them.</p>	<p><b>Access, Circulation, and Safety:</b> Access and circulation would continue to be affected by growth in the surrounding counties and increased popularity of the park from additional recreational opportunities provided. These opportunities would increase visitation to the parkway and increase length of stay in many recreation areas. Providing additional overflow parking, building at-grade road separation structures, and improved land protection and partnership efforts would be beneficial and help to moderate some of this potential growth and resultant congestion. Overall, long-term adverse impacts on the visitor experience would primarily result from increased local nonrecreational traffic, peak season crowding at popular sites, and continuing conflicts between motorists and motorcyclists and bicyclists. These impacts would be mostly local.</p>	<p><b>Access, Circulation, and Safety:</b> Alternative C would manage for lower-level visitor use due to the higher percentage of Natural zoning. Managing for lower level visitor use in most of the 15 recreation areas would be a beneficial impact on crowding and access and circulation. Visitor services would be concentrated in visitor services zones, which would be designed for concentrated use. This could lead to some crowding and increased length of stay in the recreation areas; however, updated facilities would help increase level of service and efficiency in those areas. In the frontcountry along three urban sections of the parkway, development of about 52 miles of multiuse paths would help reduce bicyclist-motorist conflicts in those areas. Compared to existing conditions, visitors who most value a quality scenic driving and improved bicycling experience would experience long-term beneficial impacts. Those visitors who desire more and</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	<p>This awareness would continue or increase and impacts would be readily apparent. Visitor length of stay would not be measurably affected.</p>	<p>Short-term impacts would be related primarily to construction activities and ongoing maintenance activities. With mitigation measures, these impacts would be adverse, local, and minor. Parkway-wide, actions that would increase visitation under this alternative would adversely affect crowding and access and circulation. Management actions to alleviate these impacts would have beneficial effects. Thus, impacts on crowding and access and circulation, as well as the driving experience, would be long-term, minor to moderate, both adverse and beneficial.</p>	<p>better access to backcountry areas would experience adverse impacts. These long-term impacts would be noticeable and affect many visitors in a local area, resulting in adverse and beneficial moderate effects depending on visitor preference.</p>
	<p><b>Recreational Opportunities:</b> Visitors would continue to have access to a variety of quality recreational trails and relatively rustic campground opportunities the length of the parkway. This would continue to be a long-term primarily beneficial impact on the visitor experience. Visitors may continue to have access to a variety of concession services, including lodging; however, current limitations of parkway concession amenities result in more and more visitors choosing to leave the parkway to access more modern food, lodging, and camping services. As a result, some parkway concessions are closing. This has the potential to substantially impact the quality of the traditional self-contained, leisurely driving experience of the parkway. This would be a long-term moderate adverse impact on the quality of the overall visitor experience for many visitors. Alternative A impacts, when combined with regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway</p>	<p><b>Recreational Opportunities:</b> The improvement of campground amenities, the substantial efforts to ensure that parkway concessions remain viable, and a variety of trail and day use enhancements primarily in the recreation zones, would have long-term local and regional moderate to major beneficial impacts on the availability of recreational opportunities to visitors. Actions such as the elimination of the Roanoke campground, more use of parkway campgrounds by RVs, and designating mixed use horse and hiking trails at Doughton, would result in some local minor to moderate long-term adverse impacts on some visitors' experiences. The regional availability of alternative camping and lodging services would continue to draw some visitors from the parkway, but this would be considerably less than in alternative A. The growing variety and miles of trail opportunities in local communities, state parks, and national forests would help meet some demand for types of trails that the parkway would not meet and enhance local visitor connections to</p>	<p><b>Recreational Opportunities:</b> The substantial improvement of campground amenities, the 52 miles of multiuse trails in the Ridge, Roanoke, Highlands, and Asheville segments, and the variety of other trail and day use enhancements primarily in the visitor use zones, would have long-term local and regional moderate beneficial impacts on the availability of recreational opportunities to visitors. More use of parkway campgrounds by RVs and potential conflicts between cyclists and pedestrians on the multiuse trails would result in some local minor to moderate long-term adverse impacts on some visitor experiences. The regional availability of alternative lodging and food services would continue to draw many visitors from the parkway as the parkway would not go to extra lengths to upgrade these parkway concession services. The potential closure of parkway concessions would be a long-term moderate adverse impact on the tradition parkway experience. The growing variety and miles of trail opportunities in local communities, state parks, and national</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	<p>region. Alternative A would contribute a comparatively small level of beneficial effects to the overall cumulative impacts.</p>	<p>the parkway through greenway projects. Alternative B impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative B would contribute a comparatively small to medium level of beneficial effects to the overall cumulative impacts.</p>	<p>forests would help meet some demand for types of trails that the parkway would not meet and enhance local visitor connections to the parkway through greenway projects. Alternative C impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative C would contribute a comparatively small to medium level of beneficial effects to the overall cumulative impacts.</p>
	<p><b>Opportunities for Orientation, Information, Interpretation:</b> The parkway currently provides information, interpretation, and educational opportunities. These services enhance visitor knowledge and understanding of parkway resources and themes at a local and regional level and are a long-term beneficial impact on visitors. There are 14 visitor centers or smaller contact facilities open along the 469-mile parkway and only three of these facilities are open year-round. Virginia and much of the North Carolina segments of the parkway have no visitor contact services between November and April. Some of the current facilities are too small to adequately serve the public or have inadequate interpretive information or programs. These important services are mostly absent at all important entry areas to the parkway. Consequently, while the parkway provides quality information and interpretation services for the peak visitor season, many visitors receive inadequate orientation to the parkway and do not have access to services for six months of the year and at certain sites year-round. These</p>	<p><b>Opportunities for Orientation, Information, Interpretation:</b> Implementation of alternative B would lengthen the visitor season from six to nine months at five of the recreation areas, especially in the northern half of the park. That would increase from three to eight the visitor contact facilities at which people could obtain information and other services at least nine months a year. This alternative would improve the quality of visitor contact services at places such as Mabry Mill and Cumberland Knob and enhance interpretation of underrepresented themes, such as parkway ecosystems and history of the parkway. It would also introduce orientation services at three out of the four currently under serviced sites—the north and south entrances and at Roanoke. As a result, considerably more visitors would have improved access to information to plan their visit at the start of their visit. All of these actions would substantively enhance the visitors’ opportunities to learn about and appreciate parkway resources and themes, considerably more than what the surrounding region can</p>	<p><b>Opportunities for Orientation, Information, Interpretation:</b> Implementation of alternative C would lengthen the visitor season from 6 to 12 months at five of the recreation areas, especially in the northern half of the park. That would increase from three to eight the visitor contact facilities at which people could obtain year-round information and other services. This alternative would improve the quality of visitor contact services at places such as Humpback Rocks and Cumberland Knob. It would also enhance interpretation of underrepresented themes, such as parkway ecosystems and history of the parkway. The doubled use of the visitor services zone in this alternative substantially increases the parkway’s flexibility to redesign visitor services to help maximize visitor program opportunities, such as the Cumberland Knob Park-as-Classrooms program. It would also introduce orientation services at all four of the currently under serviced entrance sites—the north and south entrances, Roanoke, and Boone/Blowing Rock.</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	<p>conditions result in long-term beneficial and adverse minor to moderate impacts on visitor access to orientation, information, and interpretive services along the parkway. Alternative A impacts, when combined with regional activities, would be local and regional minor to moderate long-term beneficial impacts. Alternative A actions would be a considerable beneficial contributor to these effects.</p>	<p>contribute through local programs and services. All of these actions would be long-term local and regional moderate improvements to visitor's access to information and interpretation services.</p>	
	<p><b>Opportunities to Experience Natural Soundscapes:</b> There would continue to be long-term minor to moderate adverse impacts to visitor opportunities to experience natural sounds due to loud, excessive, or disturbing noise events, limited education about how visitors can reduce self-noise, and limited interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway. Additionally, some visitors in parkway campgrounds may continue to experience long-term minor to moderate adverse impacts due to unacceptable use of generators or unsatisfactory perceptions of generator noise. Overall, there would be long-term, negligible adverse impacts to visitor opportunities to experience natural soundscapes when the effects of alternative A are added to the enhanced recreation and resource protection activities. Additionally, there would be short-term and long-term negligible to moderate adverse impacts to visitor opportunities to experience natural soundscape when the impacts of alternative A are added to the effects of residential and commercial development and road construction and improvements.</p>	<p><b>Opportunities to Experience Natural Soundscapes:</b> There would be long-term minor to moderate beneficial impacts to visitor opportunities to experience natural sounds due to possible reduction of loud, excessive, or disturbing noise events, increased education about how visitors can reduce self-noise, and improved interpretive materials. Some visitors in parkway campgrounds may experience long-term minor to moderate beneficial impacts due to reduced use of generators and increased opportunities to experience natural sounds. Roanoke Mountain campground would be converted to a day use area and noise complaints related to generator noise would no longer apply. Due to improved education to increase visitor awareness of the importance of natural soundscapes, there would be long-term minor beneficial impacts to visitor opportunities to experience natural soundscapes in the campgrounds. Overall, there would be long-term moderate beneficial impacts to visitor opportunities to experience natural soundscapes when the effects of alternative B are added to the cumulative impacts of enhanced recreation and resource protection activities. However, there would also be short-term and long-</p>	<p><b>Opportunities to Experience Natural Soundscapes:</b> There would be long-term minor to moderate beneficial impacts to visitor opportunities to experience natural sounds due to possible reduction of loud, excessive, or disturbing noise events, increased education about how visitors can reduce self-noise, and improved interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway. Some visitors in the parkway campgrounds may experience long-term minor to moderate beneficial impacts due to reduced use of generators and increased opportunities to experience natural sounds. Due to improved outreach, there would be long-term minor beneficial impacts to visitor opportunities to experience and understand the importance of natural soundscapes in the campgrounds. Overall, there would be long-term moderate beneficial impacts to visitor opportunities to experience natural soundscapes when the effects of alternative C are added to the cumulative impacts of enhanced recreation and resource protection activities. However, there would also be short-term and long-term negligible to minor adverse impacts to visitor opportunities to experience natural soundscape when the</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
		<p>term negligible to minor adverse impacts to visitor opportunities to experience natural soundscape when the impacts of alternative B are added to the cumulative effects of residential and commercial development and road construction and improvements.</p>	<p>impacts of alternative C are added to the cumulative effects of residential and commercial development and road construction and improvements.</p>
<p>Traffic and Transportation</p>	<p>Short-term impacts would occur from ongoing maintenance and traffic control activities. As the parkway road requires repair, vehicular access, level of service, traffic mix, and traffic-related safety would be adversely affected by construction-related closures or reroutes. At congested parking areas, parkway staff may need to implement temporary traffic control measures. Depending on the location and extent of these activities, short-term impacts would be local adverse and minor to moderate.</p> <p>Parkway-wide beneficial local long-term minor impacts on traffic volume, level of service, and traffic safety would result from acquisition of adjacent land, by eliminating some additional nonrecreational traffic associated with nearby development. Adverse local long-term minor impacts would result from the lack of a vista management strategy, which would hamper the parkway's ability to relocate scenic vistas based on traffic safety reasons. As traffic volumes associated with nonrecreational local and commuter traffic increases, adverse local, long-term minor to moderate impacts on traffic volumes, level of service, and traffic safety would occur. Increased use of campgrounds would also result in adverse local long-term negligible impacts on traffic volumes, level of service, and traffic safety.</p> <p>Individual segments and recreation areas</p>	<p>Short-term impacts would be similar to alternative A. The enhanced recreational opportunities may increase visitation, and thus, the number of road repairs needed. Alternative B's zoning approach would potentially reduce congestion at parking areas as visitors become less concentrated at popular sites, with a comparable reduction in the need for traffic control measures. Short-term impacts would be local, minor to moderate, adverse.</p> <p>Parkway-wide, increases in recreational traffic volumes would have the potential for local long-term minor adverse impacts on traffic volumes and level of service where the parkway is removed from local population centers. These impacts increase to minor to moderate where the parkway is closer to local and regional population centers as additional recreational and nonrecreational traffic volumes interact due to expected increased development. There would be beneficial local long-term minor to moderate impacts in the area of parking, based on the assumption that additional parking would be added to existing lots or new overflow lots to accommodate future demand.</p> <p>Individual segments and recreation areas would accommodate additional visitation, resulting in increased traffic volumes, with associated adverse impacts on level of service, parking, and traffic safety. These</p>	<p>Short-term impacts would be similar to alternative A. Alternative C would result in more extensive infrastructure redesign, resulting in higher levels of concentrated visitor use. Therefore, the amount of repairs and traffic control measures needed may be more concentrated in local areas where visitation would be high. Short-term impacts would be local, adverse, and minor to moderate depending on the location and extent of the maintenance work or congestion. Mitigation measures, such as implementing a traffic control plan, would reduce adverse impacts on minor where construction activities would occur.</p> <p>Under alternative C, vista management would be more flexible than current conditions. The parkway would, therefore, have more ability to address parking shortages at overlooks and parking areas, resulting in local long-term minor beneficial impacts on parking and traffic safety. Also under alternative C, the parkway would extend mass transit connections and provide shuttle systems, with local long-term negligible beneficial impacts on traffic volumes, level of service, and traffic safety. Campground improvements would increase campground use, resulting in adverse local long-term minor impacts on traffic volumes, level of service, traffic mix, and traffic safety. If an appreciable number of visitors access the parkway trails from new trails outside the</p>

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
	would experience adverse local long-term minor impacts, mostly related to high traffic volumes, which would affect traffic volumes, level of service, and traffic safety. Some segments and recreation areas would experience over-capacity issues would, particularly affecting parking areas, resulting in adverse local long-term negligible to minor impacts on traffic volumes, level of service, and traffic safety.	impacts would be offset at many areas with the benefits of additional overflow parking. Impacts would be beneficial, local, long-term, and range from minor moderate. Where parking improvements are not prescribed, impacts would be adverse, local, long-term, and minor.	parkway, local long-term minor beneficial impacts on parking, traffic volumes, and level of service would occur.
Parkway Operations	Alternative A would have minor to moderate long-term adverse effects to park operations due to system inefficiencies resulting from a lack of comprehensive guidance, the inability of current staff to appropriately deal with the maintenance backlog, the continued need to rely on seasonal employees. When combined with the potential impacts related to increasing development adjacent to the parkway, the need to manage recreation enhancements that impact parkway operations, and manage partnerships to protect resources and scenic viewsheds, the actions in alternative A would have a long-term moderate adverse cumulative impact on park operations. Alternative A would contribute a modest increment to this impact.	Alternative B would have minor to moderate long-term beneficial effects to park operations primarily as a result of an increase in the operations budget and staffing levels, comprehensive guidance, enhanced partner outreach and collaboration, an ecosystem approach to managing natural resources, and the ability of staff to appropriately deal with the maintenance backlog. When combined with the potential impacts related to increasing development adjacent to the parkway, the need to manage recreation enhancements that impact parkway operations, and manage partnerships to protect resources and scenic viewsheds, alternative B would have a long-term minor to moderate beneficial cumulative impact on park operations. Alternative B would contribute a large increment to this cumulative impact.	Alternative C would have minor to moderate long-term beneficial effects to park operations primarily as a result of an increase in the operations budget and staffing levels, comprehensive guidance, enhanced partner outreach and collaboration, an ecosystem approach to managing natural resources, and the ability of staff to appropriately deal with the maintenance backlog. When combined with the potential impacts related to increasing development adjacent to the parkway, the need to manage recreation enhancements that impact parkway operations and manage partnerships to protect resources and scenic viewsheds, alternative C would have a long-term minor to moderate beneficial cumulative impact on park operations. Alternative C would contribute a large increment to this cumulative impact.

**TABLE 20. SUMMARY OF THE IMPACTS OF THE ALTERNATIVES**

Impact Topic	Alternative A (No-action)	Alternative B (NPS Preferred)	Alternative C
Regional Socioeconomics	<p>The economic and social effects of alternative A would include negligible to minor short- and long-term economic and social benefits. Long-term social consequences would include assisting in maintaining the region’s population base and the parkway’s role in supporting heritage tourism, in particular traditional music, arts, and culture. Overall, the cumulative social and economic effects associated with alternative A would be minor to moderate, short- and long-term, and indeterminate because they include effects that might be concurrently viewed as beneficial or adverse by various individuals, organizations, and stakeholder groups. Alternative A would contribute a relatively small amount to this impact.</p>	<p>The economic and social effects of alternative B would include minor to moderate short- and long-term economic and social benefits. Long-term consequences would include assisting in maintaining the region’s population base and the parkway’s role in supporting heritage tourism, in particular traditional music, arts, and culture. Overall, the cumulative social and economic effects associated with alternative B would be minor to moderate, short- and long-term, and indeterminate because they include effects that might be concurrently viewed as beneficial or adverse by various individuals, organizations, and stakeholder groups. Alternative B would contribute a relatively modest, generally beneficial amount to this impact.</p>	<p>The economic and social effects of alternative C would include minor to moderate short- and long-term economic and social benefits. Long-term social consequences would include assisting in maintaining the region’s population base and the parkway’s role in supporting heritage tourism, in particular traditional music, arts, and culture. Overall, the cumulative social and economic effects associated with alternative C would be minor to moderate, short- and long-term, and indeterminate because they include effects that might be concurrently viewed as beneficial or adverse by various individuals, organizations, and stakeholder groups. Alternative C would contribute a modest, generally beneficial amount to this impact.</p>



# AFFECTED ENVIRONMENT 3



*Parkway Road with Stone Wall and Vista*



*Gathering at Humpback Rocks Mountain Farm*



# INTRODUCTION

## IN GENERAL

This chapter describes the environment of the Blue Ridge Parkway. It focuses on the natural and cultural resources, visual resources, visitor experience, traffic and transportation, park operations, and socioeconomics that may be affected by actions proposed in the alternatives. This chapter does not provide an exhaustive description of these resources; but rather enough detail to understand the impacts of implementing the alternatives. These impact topics were selected on the basis of federal law, regulations, executive orders, NPS expertise, and concerns expressed by other agencies or members of the public during project scoping. These descriptions of the parkway environment establish the basis for the impact analysis in “Chapter 4: Environmental Consequences.”

During scoping, the planning team conducted a preliminary analysis of resources to determine the context, duration, and intensity of effects that the alternatives may have on the parkway environment. If the magnitude of effects was determined to be negligible or minor, then there is no potential for substantial impact and further impact analysis is unnecessary. Therefore, the resource was dismissed as an impact topic. However, if resource effects are greater than a minor level of intensity, then the impact topic was retained for detailed analysis. This chapter describes the impact topics that have been retained and analyzed in detail in chapter 4.

Please refer to the impact topics section at the end of chapter 1 for a summary of impact topics retained or dismissed and an explanation for why certain impact topics were eliminated from detailed analysis.

The effects of climate change on the parkway environment is also included as part of the introduction of this chapter.

## CLIMATE CHANGE

To understand future trends in the condition of the parkway environment, a summary of projected regional climate changes and their potential influences on the parkway environment and visitor experience is provided. Rather than incorporate these potential effects throughout the various impact topics discussed in this chapter, the following provides a synopsis.

According to the Environmental Protection Agency (2001), the climate of the Mid-Atlantic Region of the United States is anticipated to become warmer and perhaps wetter, resulting in a wide range of impacts on plants, wildlife, and people over the next century. Climate models indicate that the southeastern states of the U.S. (including Virginia and North Carolina) may be one of the hardest hit areas in the U.S. from the effects of climate change. These models project continued temperature increases in all seasons throughout the southeast, with an increase in the rate of warming through the end of this century. Models indicate that average temperatures in the southeastern U.S. are expected to rise 4.5 to 9 degrees Fahrenheit by the 2080s, with the projected increase depending on various scenarios of carbon dioxide emission levels between now and then (USCCRP 2009). The number of very hot days each year is also expected to rise. Precipitation is estimated to increase by 15% in winter and spring and by a greater amount over the summer. More variability is also likely, resulting in extreme weather events and more frequent droughts (IPCC 2007b). This includes an anticipated increase in the severity of Atlantic hurricanes in this region (i.e., increases in peak wind speeds, rainfall intensity, and storm surge strength and height) (USCCRP 2009).

These types of projected changes are important, because climate is a dominant factor affecting the physical and ecological processes of the Blue Ridge Parkway and the Appalachian Highlands as a whole. For

example, annual precipitation in the southern Appalachian Mountains is second in North America only to areas in the Pacific Northwest and is a major driver of terrestrial and aquatic systems of the region. The magnitude, duration, and timing of temperature changes also have a major influence on the distribution and composition of species.

Like many mountainous regions, steep moisture and temperature gradients also result in noticeably different environments over short distances. For example, cool and moist spruce/fir forests that grow along the ridge tops of the parkway are within sight of significantly hotter, drier oak/pine forests along the mountain slopes. Each of these habitats has considerably different species composition, which can be affected by slight changes in climatic conditions (NPS 2007).

Long-term patterns in temperature and precipitation are one of the primary constraints on ecosystem structure and function. These lead to secondary constraints, such as the duration and intensity of storm events and seasonal variability (such as first and last frosts), which influence soil-water relationships, plant processes, the reproductive success of wildlife, nutrient cycling, natural disturbance regimes (such as wildfires), exotic species infestations, and the spread of pathogens. As a result, small changes in climate can affect the overall health and resilience of entire ecosystems. These effects are likely amplified at higher elevations, where relict boreal communities contain highly sensitive plant and animal species that can easily be impacted by warming trends. For example, extended drought profoundly affects succession patterns in high-elevation bogs and other wetlands, as well as forest composition on thin-soiled sites (NPS 2007). Severe droughts would also decrease stream flows, as well as the amount of water available for visitors at campgrounds and for irrigation of the parkway's designed landscape and agricultural leases. Low water flows in streams, compounded with higher temperatures, could also degrade water quality. Conversely, the increased frequency and intensity of flash flooding (brought on by

extreme weather events) could result in more runoff washing pesticides, fertilizers, and other toxins into the parkway's rivers and streams.

Another climate change phenomenon that will likely affect the natural ecosystems of the parkway is predicted shifts in species distributions and ranges due to rising temperatures. As average temperatures increase, species move northward or seek higher elevations in search of cooler climates (VEQD 2008). High-elevation species, such as the northern flying squirrel, are particularly vulnerable to extinction, because their habitat may eventually be replaced by lower-elevation communities. As a whole, the parkway's temperate deciduous forests may be transformed into warmer, mixed forests more typical further south. Also, pests that thrive in warmer climates might pose additional risks to parkway forests. However, under this scenario, the parkway would provide an essential corridor, connecting suitable habitats for the northward movement of flora and fauna over time (NPCA 2010).

Climate change will likely make it possible for vector-borne diseases (such as West Nile virus and Lyme disease) to spread to areas of the parkway where they were previously limited or nonexistent, increasing the rate of infections to visitors. Climate change is also projected to increase air pollutants, exacerbating respiratory illnesses like asthma. Heat waves will also be more common, affecting visitor health (VEQD 2008). Changes in habitats and wildlife populations (e.g., migratory song birds) could also reduce the parkway's attraction for tourists seeking wildlife viewing opportunities. Higher temperatures also contribute to the formation of ground level ozone and smog, which adversely effects visibility (UMD 2008)—and ultimately the scenic driving experience for visitors traveling the parkway.

Cultural resources are nonrenewable resources. Once the original materials are compromised or damaged, they become increasingly difficult to maintain (Cameron 1994). Increased precipitation and extreme

weather shifts with more pronounced droughts have the potential to impact cultural resources in several ways. Historic structures would be subjected to greater fluctuations in temperature and humidity that could cause increased deterioration and stress to original building materials, especially wood and metal. Mold growth and fungal infestation of wooden building components could accelerate because of increased moisture. Extreme episodes of drying also add to building stress. The drying of building materials make them especially susceptible to humidity shock and chemical imbalances (Sabbioni et al. 2006). Maintenance of historic buildings and facilities could become more difficult as shifting weather patterns influence the sustainability of historic preservation along the parkway. Increased drought may lead to increased incidences of wildfires which could impact both archeological and historic resources.

Periodic increases in stream flow resulting from more intense storm events may cause

deterioration to archeological sites because of greater erosion. Both historic and prehistoric archeological resources may be exposed and stability compromised causing them to be subject to the extremes of temperature and precipitation that may be anticipated with climate changes in the region. Exposure of archeological sites would also make them more vulnerable to looting and vandalism.

Cultural landscapes of the parkway may be further altered at an increased rate because of climate change. Cultural landscapes have been identified in the Pisgah, Black Mountain, Highlands, Plateau, and Ridge Districts. These landscapes and their components may be altered from the impacts of climate changes in the future. Landslides, soil movement, and stream erosion that result from increased storm intensity may cause dramatic changes to geographic areas determined to be cultural landscapes. The potential removal or destruction of the characteristics for which the landscape is known may be forever changed in one extreme event (Melnick 2009).

# NATURAL RESOURCES

## INTRODUCTION

This section describes the natural resource components of the parkway's environment that would be affected by implementing the alternatives. It presents only enough detail to understand the effects of the alternatives and is not an encyclopedic description. These descriptions are concise summaries organized by the resource topics, which match those analyzed in "Chapter 4: Environmental Consequences."

Information about each resource topic corresponds to the type of impacts being analyzed in chapter 4. Descriptions of these resources are at the parkway-wide level, rather than for each of the 7 parkway segments and 15 major recreation areas. If there is a potential for site-specific resource impacts in a parkway segment or recreation area from implementation of any of the alternatives, then additional background information about that particular resource is included as part of the analysis in chapter 4. The only exception to this is the locations of threatened and endangered species, which are not provided due to the extensive poaching problem facing the parkway. The topics are as follows:

- Vegetation and Wildlife—including plant communities, wildlife and wildlife habitat, and ecologically sensitive areas
- Federal and State Listed Species—including threatened and endangered species
- Geologic Resources and Soils
- Water-related Resources—including wetlands, riparian areas, floodplains, water quality, and streams
- Air Quality—including ozone, visibility, and atmospheric deposition

## VEGETATION AND WILDLIFE

### Vegetation

Forests of varying types cover most parkway lands. Generally, spruce/fir forests are found at the highest elevations, mixed hardwoods are found throughout the middle to lower elevations, and oak/pine forests are found on the driest sites. The predominant vegetation type is a montane, cold deciduous, broad-leaved forest. This hardwood forest is mostly black, white, and chestnut oaks that grow on many of the parkway's drier mountain slopes.

Tree species such as yellow poplar, red maple, northern red oak, and sweet birch occur throughout the parkway's valleys and moist slopes. Smaller patches of broad-leaved forest mixed with evergreen trees are found in the intermontane basins, which include scarlet, white, blackjack, and post oaks and Virginia pine. Table Mountain pine, a fire dependent species, occurs on dry ridgetops where fire was historically more common. Eastern white pine is found along the Blue Ridge escarpment where it joins with the southern Appalachian Piedmont. Moist sites at higher elevations (greater than 4,500 feet in elevation) are occupied by northern hardwoods, including sugar maple, basswood, and buckeye. Drier sites are dominated by northern red oak. Evergreen forests with red spruce and Fraser fir are found above 5,000 feet in elevation. Although plant inventories are still ongoing, there are currently 1,800 species of vascular plants known to occur along the parkway.

The broad vegetation types of the parkway are further divided into more specific plant communities. Table 21 lists the rare plant communities that occur throughout the parkway, including their rank based on the global rarity classification system:

G1 Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction.

G2 Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 Either very rare and local throughout its range; found locally in a restricted range (e.g., a single physiographic region); or because of other factors that make it vulnerable to extinction throughout its range.

Each of these plant communities is described in the publications, *Classification of the Natural Communities of North Carolina* (NCNHP 1990) and *The Natural Communities of Virginia: Classification of Ecological Community Groups* (VDCR 2006a).

All rare plant communities of the parkway are protected under NPS policy. Many of these sites are designated by Virginia and North Carolina as natural heritage areas or conservation sites. In North Carolina the parkway encompasses 47 natural heritage areas that have been set aside as examples of exemplary natural communities. In Virginia, there are 35 conservation sites on parkway lands that are designated to conserve and protect the state’s natural heritage resources. In total, these state-designated areas on parkway lands in both Virginia and North

Carolina include more than 12,500 acres of high-elevation wetlands, spruce/fir forests, grass and heath balds, periglacial boulder fields, and several varieties of deciduous hardwoods. Many of these harbor rare plant and animal species, which are discussed in the “Federal and State Listed Species” section.

**Wildlife**

The parkway supports a variety of wildlife species. Most commonly observed are whitetail deer, squirrels, rabbits, groundhogs, and birds. Dozens of less visible species are also found throughout parkway lands, including approximately 74 species of mammals, 44 species of amphibians, 35 species of reptiles, 57 species of fish, and more than 300 species of birds. Many of these bird species are migratory, and waves of birds can be seen and heard traveling along the parkway during the spring and fall. About 115 bird species nest in the various plant communities of the parkway during the summer. A rich diversity of insects, mollusks, and other invertebrate animals also inhabit parkway lands and waterways.

**TABLE 21. LIST OF RARE PLANT COMMUNITIES IN THE BLUE RIDGE PARKWAY**

Plant Community Name	Global Rarity Ranking
Boulderfield Forest	G3
Carolina Hemlock Bluff	G2, G3
Fraser Fir Forest	G1
Grassy Bald	G2
High-Elevation Granitic Dome	G2
High-Elevation Rocky Summit	G2
High-Elevation Seep	G3
Montane Alluvial Forest	G2
Montane Mafic Cliff	G2
Northern Hardwood Forest (Beech Gap Subtype)	G2
Red Spruce/Fraser Fir Forest	G2
Southern Appalachian Bog (Northern Subtype)	G1
Southern Appalachian Bog (Southern Subtype)	G1
Spray Cliff	G2
Swamp Forest- Bog Complex (Typic Subtype)	G2, G3

Because of its high mountain ridges, the parkway hosts a variety of rare wildlife species that are only found in these high-elevation habitats and headwater streams of the southern Appalachian Mountains. Many of these are threatened and endangered species, which are discussed in the “Federal and State Listed Species” section.

Executive Order 13186 directs each federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with the U.S. Fish and Wildlife Service to develop an agreement to conserve those birds. This January 2001 executive order prompted the development of a memorandum of understanding between the National Park Service and the U.S. Fish and Wildlife Service. The purpose of this memorandum of understanding is to strengthen migratory bird conservation by identifying and implementing strategies across agency jurisdictions that are intended to complement existing efforts and facilitate new migratory bird conservation partnerships and comprehensive planning strategies. The latest memorandum of understanding was signed by the directors of both agencies in April 2010 and is set to be in place for up to 10 years.

In addition to avoiding or minimizing impacts on migratory bird populations, agencies are expected to take reasonable steps, which may include restoring and enhancing habitat, preventing or abating pollution affecting birds, and incorporating migratory bird conservation, into agency planning processes whenever possible. These considerations are incorporated into the broad parkway-wide management strategies described under alternatives B and C in chapter 2.

### **INVASIVE SPECIES**

The native plant and animal communities of the parkway have been impacted by invasive species, including a number of different plant diseases, pest infestations, and exotic weeds. The chestnut tree was once historically common along the parkway, but has been virtually extirpated from the region by

chestnut blight. The spruce/fir forests are now disappearing because of a tiny, pin-head-sized insect known as the balsam woolly adelgid. This insect was accidentally introduced in North America and by the 1950s it reached the southern portion of the parkway. Since then, its effect on the parkway’s spruce/fir forests has been devastating. The same scenario is now occurring in the parkway’s hemlock forests due to a similar type of pest—the hemlock woolly adelgid. Other invasive species that are impacting native plant and animal communities of the parkway include the gypsy moth, dogwood anthracnose, and multiflora rose.

### **FEDERAL AND STATE LISTED SPECIES, INCLUDING THREATENED, ENDANGERED, AND FEDERAL CANDIDATE SPECIES**

The Endangered Species Act of 1973, as amended, requires that federal agencies consult with the U.S. Fish and Wildlife Service before taking any action that could jeopardize the continued existence of any federal listed threatened or endangered species. As a result, the National Park Service must consider potential effects that any proposed action may have on these species. National Park Service policy also requires the protection of all federal candidate species and state listed species.

Although federal and state “species of concern” are not included as part of the environmental impact analysis, these species would be protected under management direction set forth by NPS policy and all action alternatives. The U.S. Fish and Wildlife Service defines “species of concern” as those species which are in need of more concentrated conservation actions. The criteria for this classification can relate to declining population trends, threats to the species habitat, limited distribution, or other factors. The necessary conservation actions could range from a periodic monitoring of populations and threats to a possible need to propose the species for listing as a federal threatened or endangered species. Examples



of species of concern that inhabit parkway lands include the timber rattlesnake, Allegheny woodrat, eastern small-footed myotis, Appalachian woodrat, long-tailed shrew, southern water shrew, and the brown creeper.

The U.S. Fish and Wildlife Service and the states of Virginia and North Carolina were consulted by the National Park Service regarding federal and state listed species that may occur in the parkway. All agencies provided lists of rare species that may exist in the Virginia and North Carolina counties along the parkway. Table 22 lists the threatened and endangered species that are

likely to occur in the parkway based on a synthesis of existing inventories and a comparison of the general habitat types found in the parkway and the habitat requirements of those species. Because some federal and state listed species that occur in the counties along the parkway corridor might not occur within or near the parkway boundaries, professional judgment of park staff and other subject matter experts was used to determine which listed species occur within the parkway. Species that occur outside of the parkway would not be adversely affected by the management actions of this plan; thus, these species are not included in table 22.

**TABLE 22. LIST OF THREATENED AND ENDANGERED SPECIES IN THE BLUE RIDGE PARKWAY**

Scientific Name	Common Name	Federal Status	Virginia Status	North Carolina Status
<b>Mammals</b>				
<i>Corynorhinus townsendii virginianus</i>	Virginia big-eared bat	E	E	E
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	E	E
<i>Myotis grisescens</i>	gray bat	E	E	E
<i>Myotis sodalis</i>	Indiana bat	E	E	E
<b>Birds</b>				
<i>Aegolius acadicus</i> pop. 1	northern saw-whet owl			T
<i>Ammodramus henslowii</i>	Henslow's sparrow		T	
<i>Dendroica kirtlandii</i>	Kirtland's warbler	E	E	
<i>Falco peregrinus</i>	peregrine falcon		T	E
<i>Haliaeetus leucocephalus</i>	bald eagle	D*	T	T
<i>Lanius ludovicianus</i>	loggerhead shrike		T	
<i>Thryomanes bewickii altus</i>	Appalachian Bewick's wren		E	E
<b>Reptiles</b>				
<i>Clemmys (=Glyptemys) muhlenbergii</i>	bog turtle	T**	E	T
<b>Amphibians</b>				
<i>Plethodon wehrlei</i>	Wehrle's salamander			T
<b>Fish</b>				
<i>Etheostoma acuticeps</i>	sharphead darter		E	T
<i>Percina rex</i>	Roanoke logperch	E	E	E
<i>Polyodon spathula</i>	paddlefish		T	E
<b>Invertebrate Animals</b>				
<i>Fumonelix orestes</i>	engraved covert (mollusk)			T
<i>Fumonelix wheatleyi clingmanicus</i>	Clingman covert (mollusk)			T
<i>Inflectarius ferrissi</i>	Smoky Mountain covert (mollusk)			T
<i>Leptaxis dilatata</i>	seep mudalia (mollusk)			T
<b>Vascular Plants</b>				
<i>Calamagrostis cainii</i>	Cain's reed grass			E

**TABLE 22. LIST OF THREATENED AND ENDANGERED SPECIES IN THE BLUE RIDGE PARKWAY**

Scientific Name	Common Name	Federal Status	Virginia Status	North Carolina Status
<i>Dalibarda repens</i>	robin runaway			E
<i>Delphinium exaltatum</i>	tall larkspur			E
<i>Geum geniculatum</i>	bent avens			T
<i>Geum radiatum</i>	mountain avens (spreading avens)	E		E
<i>Glyceria nubigena</i>	Smoky Mountain mannagrass			T
<i>Helonias bullata</i>	swamp pink	T	E	T
<i>Isotria medeoloides</i>	small whorled pogonia	T	E	E
<i>Juncus trifidus</i>	highland rush			E
<i>Liatris helleri</i>	Heller's blazingstar	T		T
<i>Lilium grayi</i>	Gray's lily			T
<i>Narthecium americanum</i>	bog asphodel	C		E
<b>Nonvascular Plants</b>				
<i>Gymnoderma lineare</i>	rock gnome lichen	E		T

\* Although the bald eagle has been delisted under the Endangered Species Act, the species is still protected under the Bald and Golden Eagle Protection Act.

\*\* Southern population of bog turtle (as found in park) is listed as Threatened due to similarity of appearance with northern population of the same species.

(E = endangered, T = threatened, D = delisted, C = candidate)

A detailed description and regulatory profile of all federal listed species can be found at <http://www.fws.gov/species/#endangered>. The following briefly describes certain threatened and endangered species that are of particular management concern to the parkway and/or could be affected by management actions or strategies in the proposed alternatives. The listed species in table 22 that are not described below would not be affected by any proposed actions. Mountain avens occurs on high-elevation rock outcrops. Heller's blazing star occurs on xeric rock outcrops at elevations greater than 4,500 feet. Swamp pink is a wetland species, preferring hydric soil conditions and moderate shade. Small whorled pogonia typically emerges in April and flowers in late April to mid-May.

### Virginia Big-eared Bat

The Virginia big-eared bat is a medium-sized bat found in several counties along the parkway. These nonmigratory, hibernating bats live year-round in caves or abandoned mines found primarily in mountainous, oak/hickory forests above 1,500 feet. They

typically roost alone or in small groups on walls and ceilings in the vicinity of the cave or mine openings, where more airflow is available. Their roosting sites may vary between summer and winter. The bats are nocturnal feeders, targeting prey such as flies, beetles, and moths.

In 2003, a Virginia big-eared bat was found for the first time on parkway lands. They are known to occur at one location in the parkway with one to three bats observed at any one time during both summer and winter surveys. These bats are also suspected to occur at another nearby site but this has not been confirmed. Also, a cave just outside the parkway boundaries and relatively close to the two known park sites, has had a robust population of Virginia big-eared bats as well as other bat species. Thus, a larger number of the Virginia big-eared bats could be within the parkway boundaries during nocturnal foraging. However, white-nose syndrome, a fatal fungal disease in bats, was found at this site during 2010 surveys. Surveys of the park sites are continuing with assistance from biologists with the North Carolina Wildlife Resources Commission and the U.S. Fish and Wildlife Service.

## Indiana Bats

Indiana bats are small, migratory bats that roost together in large groups in caves and mines, typically in the vicinity of water sources. Each fall, these bats migrate to the caves and mines in their home territory to hibernate in large clusters. Only seven hibernacula locations have been identified in the U.S. Through spring and summer, most males use caves to roost, while females and young often roost under loose bark and in tree hollows of hickory and oak in riparian areas. The Indiana bat is nocturnal, primarily feeding on flies, moths, and other insects flying above streams and riparian trees. Indiana bats are highly vulnerable to disturbance, habitat change, and environmental contamination and are at particular risk because of their very concentrated and very limited hibernation sites.

Bat surveys conducted at more than 25 stationary locations and while driving along 462 miles of the parkway have not found Indiana Bats on parkway lands. However, it is assumed that they have been present in the park because they have been found less than one mile from the parkway boundary. Indiana Bats have been documented on the Cherokee Reservation near the parkway boundary and in three of the counties near the parkway's southern end. Parkway and state biologists will be conducting additional surveys in coming years. While loss of habitat and suitable trees are threats to the Indiana bat, current park practices of protecting riparian areas, not cutting hazard trees during certain times of year, and inspecting trees that might be used by these bats will continue to protect Indiana bats should they occur in the park.

## Gray Bats

The gray bat's range is generally limited to the limestone karst areas of the southeastern United States, including sections of North Carolina. Gray bats typically live in caves year-round. In summer, they typically roost in caves that are in close proximity to streams or

streams. During this time, they forage for flying insects above streams, riparian vegetation, and lakes. In winter, they hibernate in deep, vertical caves. Like the Indiana bat, gray bats are endangered largely because of their habit of living in very large numbers in a very limited number of caves, thus being very prone to human disturbances.

Gray bats were not found in recent bat surveys that were conducted at more than 25 stationary locations in the park and while driving along 462 miles of the parkway. The U.S. Fish and Wildlife Services has two records of gray bats from Haywood County at the extreme south end of the parkway (one from 2010 and one from several years prior). While loss of habitat and suitable trees are threats to this species, current park practices of protecting riparian areas, not cutting hazard trees during certain times of year, and inspecting trees that might be used by these bats will continue to protect gray bats should they occur in the park.

## Carolina Northern Flying Squirrel

The Carolina northern flying squirrel can be found in and adjacent to high-elevation, spruce/fir forests (typically above 4,500 feet elevation). These squirrels tend to prefer the moist transition zones between coniferous and hardwood forests, in areas with widely spaced mature trees, snags, and lush evergreen understories. In winter, squirrels inhabit tree cavities in hardwoods. Flying squirrels feed primarily on fungi that are found in areas with spruce trees. But, as omnivores, they also eat other plants including lichens, fruits, seeds, and conifer seedlings. While gaining nutrients from fungi, flying squirrels also contribute to the dispersal and diversity of fungi and microbial species in spruce/fir forests, playing an important role in the health of this ecosystem (NPS 2008a).

The flying squirrel is adapted to cold boreal conditions and its range has probably been shrinking because of warming conditions since the last ice age. Populations are now restricted to isolated areas at high elevations,

separated by vast areas of unsuitable habitats. Several areas along the parkway have been identified in the U.S. Fish and Wildlife Service recovery plan as geographic recovery areas. Nest box surveys of Carolina northern flying squirrel have confirmed their presence at 11 locations on parkway lands and six other sites within about 0.9 miles of the park boundary. This encompasses four sections of the parkway covering about 55 miles. In all of these locations, the squirrel populations appear to be stable with much of the suitable habitat protected by government agencies or private land conservation organizations. However, in addition to climate change, the intrusion of southern flying squirrels poses a threat to northern flying squirrels along the parkway corridor and throughout the Southern Appalachians. The parkway will be receiving funding to create a species action plan to consolidate research findings over the last 20 years and to coordinate regional activities that might affect the squirrels.

### **Northern Saw-whet Owl**

The northern saw-whet owl is the smallest owl in eastern North America; it is most prevalent in northern U.S. states or southern Canada. Some saw-whet owls are nonmigratory, whereas others migrate south to areas such as North Carolina. These owls prefer to roost during daytime hours in dense conifer stands typically comprised of pines, spruces or cedars. The particular trees chosen for roosting are often along the edge of large wooded areas, where the owls have direct access to forested and open lands for hunting at night. Areas of mature forests that are in proximity of water tend to be preferred for nesting.

Northern saw-whet owls were not known to breed in the southern Appalachians until the 1970s when increasing reports of young owls were documented. Since then, they have been confirmed to breed in the spruce/fir forests along the parkway at several locations. Parkway biologists and volunteers have been surveying for breeding owls over the last three decades and have identified more than 30

locations where male saw-whet owls have repeatedly been calling. Overall, the population of these areas appears to be stable, with owls being found at these sites in successive years.

### **Bog Turtle**

The bog turtle is considered to be the rarest freshwater turtle in North America; it is currently listed in nearly every state within its range, including Virginia and North Carolina. Bog turtles are closely associated with bogs, marshy meadows, and small, shallow streams that support various sedges and other aquatic and semiaquatic plants. Most of the known localities are disjunctive with small, isolated populations. Bog turtle populations are believed to be in decline throughout their range as a result of illegal collection for the pet trade and loss of habitat through ditching, draining, and filling in wetlands for development and agriculture. Other factors that may be contributing to the bog turtle's decline include a slow reproductive rate, isolation of individual populations, predation, flooding of habitat by beaver, mortality from vehicles, livestock grazing, and water pollution.

Much of the bog turtle's range in Virginia and North Carolina is scattered along a narrow belt in and along the parkway. The bog turtle is found in only four Virginia counties and only three North Carolina counties. More specifically, the bog turtles have been found at 63 locations on the parkway lands, including turtles that were found walking across the parkway itself. Fifteen of these sites are wetlands with active resident populations. Only a very few of these sites appear to support enough individuals to be considered viable, long-lasting populations. Loss of nearby privately owned wetlands elevates the importance of adjacent parkway habitat for the protection of this rare reptile. The parkway serves as one of the last refuges where both the bog turtle and its habitat are protected. However, private development along the parkway boundary, encroachment by nonnative and woody vegetation, and

poaching of the species could threaten even some of the parkway's bog turtle populations.

### **Engraved Coverts**

Like most lands snails, the rare engraved covert prefers moist, shady areas such as dense forests, seeps and springs, caves, and north-facing slopes. With drying out being the covert's primary threat, the moisture and shade are essential. Land snails play an essential role in forest ecology by serving as a primary decomposer of organic material. Engraved coverts have been found at five locations on parkway lands along the boundary between Haywood and Jackson counties. These snails were found at each of the sites searched along the parkway and while they are only found in a very restricted area, the overall population appears to be stable with no immediate threat to their stability. The past construction of the parkway resulted in some fragmentation of habitat and subsequent private development on adjacent lands has destroyed additional acreage of engraved covert habitat.

### **Mountain Avens**

It is a perennial herb with basal rosettes of leaves arising from horizontal rhizomes. It blooms from June through September and produces fruit from August through October. The rhizomes of spreading avens are believed to be capable of surviving for decades, but continued failure in seed production and clonal spread poses a threat to long-term survival and recovery of the species. There are five known occurrences of mountain avens populations in the parkway. All populations are perceived to be stable. However, this fragile alpine plant is at risk due to threats from climate change, trampling, rock climbing, and rock/ice fall. Long-term demographic monitoring of the plant is being implemented by park staff.

### **Heller's Blazing Star**

It is a perennial herb that blooms in August and produces fruit in September to October. There are four known occurrences of Heller's blazing star populations known in the parkway. All populations are perceived to be stable, but at risk due to threats from global climate change, fire suppression, trampling, and poaching. In 2009, one population was impacted by poachers who dug entire mature and flowering individuals. Long-term demographic monitoring is being implemented by park staff.

### **Swamp Pink**

Although the species can reproduce sexually, asexual clonal root growth is more common. Plants tend to grow in clumps, close to the parent plants. The species appears to be somewhat shade tolerant and needs enough canopy closure to minimize competition with other more aggressive species. The species is highly vulnerable to siltation of its habitat by runoff associated with adjacent development. There are two known occurrences of swamp pink populations in the parkway. Both populations are declining due to a lack of recruitment. And one population is quite small and vulnerable. Poor flowering performance is thought to be due to reduced light from dense canopy cover. Threats to the plant include increased densities of canopy cover, invasive plants, deer browsing, and wetland draining. Flowering plants on parkway lands are enclosed in wire cages to protect them from deer browsing. And, an augmentation of the smaller swamp pink population in the parkway occurred in 2010 in an attempt to increase its population size. Long-term demographic monitoring is being implemented by park staff.

### **Small Whorled Pogonia**

It occurs on upland sites, generally in second- or third-growth, mixed deciduous or deciduous-coniferous forests. Soils where it grows are moderately high in moisture, highly

acidic, and generally nutrient poor. Small whorled pogonia occurs in both young and old forests with relatively open understory and moderate groundcover. There are two known occurrences of small whorled pogonia populations in the parkway. A previous, third population is likely extinct, as no individuals have been observed over since 2004.

Increased canopy cover is believed to contribute to lower light levels and hence lower survival rates. Since deer browsing is also a serious threat to this species, fencing is used to protect the plants in the parkway. Long-term demographic monitoring is being implemented by park staff.

### **Rock Gnome Lichen**

Rock gnome lichen is primarily found above 5,000 feet on north-facing exposed vertical rock faces where water flows only at very wet times. It prefers southern and western exposed sites with partial canopy coverage. There are 17 known occurrences of rock gnome lichen populations in the parkway. All populations are perceived to be stable, but at risk due to threats from climate change and an unknown predatory algae. In 2008, park staff conducted an inventory and quantitatively measured the lichen's population size using a protocol jointly developed with U.S. Fish and Wildlife Service. Trampling remains a threat to this fragile lichen whose habitat often coincides with prime viewing outlooks.

### **GEOLOGIC RESOURCES AND SOILS**

The Blue Ridge Parkway follows the high crest of the central and southern Appalachian Mountains from Shenandoah National Park in Virginia to Great Smoky Mountains National Park in North Carolina. Along the parkway route, the elevation descends to as low as 650 feet above sea level at the James River crossing in Virginia and ascends to as high as 6,050 feet above sea level at Richland Balsam in North Carolina. From the north, the parkway follows the Blue Ridge Mountains for the first 355 miles. It then skirts the southern end of the massive Black Mountains;

weaves through the Craggies, the Pisgahs, and the Balsams; and finally ends in the Great Smokies.

The parent rock (largely spanning the Cambrian to Devonian time period) in the northern part of the Blue Ridge Mountains and on the eastern edge of the southern Appalachian Mountains towards the Piedmont is often mineral-poor sandstone and quartzite. In contrast, the parent rock types of the inner and western parts of the southern Appalachian Mountains, predominantly gneiss, are quite rich, containing many minerals.

Over thousands of years, these diverse strata of parent materials have been exposed and weathered to produce a wide variety of soil types throughout the parkway. This large variety of soil material throughout the region has resulted in a very diverse distribution of plants and animals across the landscape. In other words, the parkway's complex geomorphology and geology have led to a diversity of soils, which in turn has fostered exceptional biodiversity.

The quality of soils along the parkway depends mostly on topography. On ridges, peaks, and overhangs, the soils are nutrient poor; on lower slopes, coves, and valleys, the soils can be very rich. The dominant soil type is inceptisols. These soils are typically associated with moderate horizon development due to steep topography and resistant parent material. Boulders and outcrops of bedrock are extensive on mountain slopes. Soils on side slopes and ridges are well drained and range from very deep to shallow over hard bedrock, saprolite, or soft bedrock. Soils above 4,800 feet are subject to extreme cold temperatures and high winds. Some of the soils that commonly occur on parkway lands include those of the Cheoah, Cowee, Evard, Plott, Soco, Stecoah, Tanasee, and Wayah series. All present moderate to severe erosion hazards, depending on steepness of slope.

## **WATER-RELATED RESOURCES, INCLUDING WETLANDS, RIPARIAN AREAS, FLOODPLAINS, STREAMS, AND WATER QUALITY**

The Blue Ridge Parkway road crosses eight major river basins and multiple subbasins that contain more than 400 streams, many of which originate on parkway lands. These headwater streams provide important habitat for many rare aquatic species. Of these, 148 are documented trout streams, some of which support native brook trout which is the state fish of both Virginia and North Carolina. The parkway also passes through three municipal watersheds that provide drinking water to nearby communities. The high water quality of these streams results from protection of adjacent riparian areas and floodplains from development and over use.

The parkway also contains several human-made lakes and ponds, ranging from small livestock impoundments up to the 48-acre Price Lake near Blowing Rock. Increasing populations of beavers have also resulted in many beaver ponds that provide habitat for amphibians, waterfowl, and wetland plant species.

Streams along the parkway are classified according to four state surface water classifications: nontidal waters, mountain zone waters, stockable trout waters, and natural trout waters. These classifications define the best uses to be protected in these waters and include water quality standards to monitor their condition. In both Virginia and North Carolina, all state surface waters are protected for wildlife, fish, and other aquatic life, as well as for recreation, fishing, agriculture, and other uses.

There are more than 140 wetlands on parkway lands. Several different wetland types are represented in this mosaic of wetlands across the parkway (e.g., riparian, bogs). Many of the parkway's wetlands have a G1, G2, or G3 global rarity ranking, making them significantly rare resources. A list of these rare wetland types is included in the rare plant community list in table 21. Of these rare plant

communities, the High-Elevation Seep, Montane Alluvial Forest, Southern Appalachian Bog, and Swamp Forest-Bog Complex are wetlands. In the southeastern United States, these wetlands support more threatened and endangered species than all other wetland types combined. Surveys of the parkway's wetlands indicate that approximately 25% of these habitats have been impacted by invasive species, principally the multiflora rose. This tenacious plant was introduced from Japan more than 100 years ago and continues to displace native species associated with wetlands and other habitats found along the parkway.

A few wetlands of the parkway are worth noting given their prominence, uniqueness, and/or proximity to active public recreation areas of the parkway. The wetlands at Mt. Pisgah and Julian Price Memorial Park are good examples. The Pisgah bog sits at an elevation of about 4,900 feet above sea level in the Mt. Pisgah recreation area and contains a high quality Southern Appalachian bog natural community that eventually drains into Pisgah Creek. This rare natural community provides natural conditions that are ideal for a high diversity of plants and animals (including rare plants such as the bog asphodel). The site consists of heath shrub vegetation interspersed with openings of sedges and forbs, streams, wet meadow, and rock outcrops. The Pisgah bog is surrounded on three sides by a campground, and thus, is somewhat affected by adjacent human activity and by surface and groundwater flow from this adjacent land (NCNHP 1986).

The wetlands at Julian Price Memorial Park contain four good examples of the rare Southern Appalachian bog natural community type (Cold Prong wetland, Boone Fork bog, Sims Branch wetland, and Bur-reed bog). In addition to rare plants, these wetlands also support the federally threatened bog turtle (*Clemmys muhlenbergii*), which have been observed in Cold Prong Bog and Sims Branch Bog. Cold Prong Bog, the westernmost of the three bogs, occurs in an extensive open meadow along the edge of stream terrace/floodplain. This bog has been affected

by adjacent agricultural practices and ditches in the area. Boone Fork bog lies in a flat valley bottom on the north side of the parkway road and is in generally good condition. This bog is another example of the Southern Appalachian bog natural community, and is dominated by rushes and sedges in open areas, with willow communities around the edges. Just to the north of Boone Fork bog is a small, high-quality bog identified as Bur-reed bog as it contains a large population of greenfruit bur-reed (*Sparganium chlorocarpum*). Lastly, Sims Branch wetland occurs on the south side of the parkway roadway in a flat bottom of a small valley. This is another Southern Appalachian bog. All of these wetlands are generally in good condition. However, some nonnative, invasive vegetation exists in these areas. In addition, beaver activities have been known to impact certain portions of these bogs from time to time, though these alterations may be considered a part of the natural, dynamic wetland processes (NCNHP 1994).

## AIR QUALITY

The Clean Air Act of 1955, as amended, was established to promote public health and welfare by protecting and enhancing the nation's air quality. The act established programs that provide special protection for air resources and air quality-related values associated with NPS units. Section 118 of the Clean Air Act requires parks to meet all state, federal, and local air pollution standards.

The Clean Air Act and pursuant regulations classify areas of the country by existing and desired air quality conditions. Blue Ridge Parkway is listed as class II area by Congress. Air quality in class II areas is protected under the act, but less stringently than class I areas, which include international parks, national wilderness areas, and national parks larger than 6,000 acres (e.g., Shenandoah and Great Smoky Mountains national parks). However, the class II designation of the parkway does not diminish the importance of protecting and improving its air quality to ensure the parkway meets its purpose of providing high quality

scenic and recreational experiences for visitors.

The National Park Service strives to perpetuate the best possible air quality in units of the national park system because air pollution affects ecological and human health, scenic views, and visitor enjoyment, even at relatively low levels. Progress toward this goal is measured by examining current conditions and trends for key air quality indicators, including the following:

- ozone, which affects human health and vegetation
- visibility, which affects how well and how far visitors can see
- atmospheric deposition, which affects ecological health through acidification and fertilization of soils and surface waters

For each of these indicators, one of the following three condition categories is assigned based on ongoing monitoring by the National Park Service: (1) significant concern, (2) moderate (cautious), or (3) good. The procedures for assigning these categories are described for each indicator. Trends are then used to determine if a park's air quality condition is improving, stable, or degrading. The National Park Service considers stable or improving air quality trends a sign of success. Although trends are indicative of progress, the ultimate goal is clean, clear air in parks. A stable trend in air quality may not be sufficient to protect an area that is already experiencing poor quality.

## Ozone

High ozone concentrations in the atmosphere of national parks can have adverse effects on park visitors and park staff, as well as on plant life. For humans, elevated ozone levels can cause or worsen respiratory conditions such as asthma. The concern for the health and safety of park visitors and staff has led to an ozone advisory system in national parks where levels are likely to approach or exceed the ozone standard. Plant life is generally



more sensitive to ozone than humans. Effects on vegetation that is sensitive to ozone can include visible injury on leaves and needles, premature leaf loss, reduced photosynthesis, and reduced growth (NPS 2011a).

The National Park Service calculates ozone trends using the Environmental Protection Agency’s (EPA’s) metric for the national ambient air quality standard (i.e., the 3-year average of the annual fourth highest daily maximum 8-hour ozone concentration). In the eastern United States, where ozone concentrations in national park system units such as Great Smoky Mountains and Shenandoah sometimes reach high enough levels to harm human health, the ozone trends have been mostly stable during over the past 10 years. In the last few years, most eastern states implemented new pollution control programs designed to reduce nitrogen oxides—a precursor to ozone formation.

The Environmental Protection Agency’s ozone standard is used as a benchmark for rating current ozone air quality, which includes the five-year average of the annual fourth highest 8-hour ozone concentration. If the resulting five-year average was greater than or equal to 76 parts per billion (ppb), the air quality condition is of “significant concern.” A moderate condition is assigned to parks with average ozone concentrations of 61 to 75 ppb (greater than 80% of the standard). A good condition is assigned to parks with average ozone concentrations less than 61 ppb (less than 80% of the standard).

Based on this methodology, table 23 shows monitoring results for ozone conditions and trends for the Blue Ridge Parkway and Great Smoky Mountains and Shenandoah national parks (NPS 2010b). Results for all three parks are included to better understand regional air quality conditions. In addition to these monitoring results, it is important to note that the parkway passes through “nonattainment” counties in both Virginia and North Carolina because of high ozone levels.

**TABLE 23. AIR QUALITY CONDITIONS AND TRENDS—  
OZONE**

Ozone	Air Quality Condition	Air Quality Trends
Blue Ridge Parkway	Moderate	None (Stable)
Great Smoky Mountains National Park	Significant Concern	None (Stable)
Shenandoah National Park	Moderate	Improving

### Visibility

Clear visibility across a park’s landscape is an essential quality that allows park visitors to see and appreciate the beautiful scenery and night skies that are common to national parks. High visibility enhances color contrasts, shapes, and textures of natural and cultural features across the park landscape. The 1977 Clean Air Act amendments established a National Visibility Goal to remedy existing and preventing future human-caused visibility impairment in class I areas (NPS 2011a).

To assess visibility in parks, the National Park Service looks at the 20% clearest days and the 20% haziest days of the year to measure visibility conditions. The Environmental Protection Agency uses these measurements to assess progress toward the national goal of remedying any existing and preventing any future human-made visibility impairment in class I areas. Although Blue Ridge Parkway is listed as class II, monitoring data is available for the parkway to assess visibility conditions based on these standards.

Individual park scores for visibility are based on the deviation of the current visibility conditions from estimated natural visibility conditions. Visibility in this calculation is expressed in terms of a haze index in deciviews. As the haze index increases, the visibility worsens. A “good” condition is assigned to parks with a visibility condition estimate of less than two deciviews. Parks with visibility condition estimates ranging from two to eight deciviews above background conditions were considered to be in a “moderate” condition. Parks with visibility

condition estimates greater than eight deciviews above background conditions were considered to have a “significant concern.” The deciview ranges of these categories, while somewhat subjective, were chosen to reflect as nearly as possible the variation in visibility conditions across the National Park Service’s monitoring network.

Based on this methodology, table 24 shows monitoring results for visibility conditions and trends for the Blue Ridge Parkway and Great Smoky Mountains and Shenandoah national parks (NPS 2010b). Results for all three parks are included to better understand regional visibility concerns.

**TABLE 24. AIR QUALITY CONDITIONS AND TRENDS—  
VISIBILITY**

Visibility	Air Quality Condition	Air Quality Trends
Blue Ridge Parkway	Significant Concern	None (Stable)
Great Smoky Mountains National Park	Significant Concern	None (Stable)
Shenandoah National Park	Significant Concern	None (Stable)

### Atmospheric Deposition of Pollutants

The deposition of sulfur and nitrogen into the natural landscape changes soil and water chemistry. These effects can have impacts on aquatic life, such as algae and aquatic invertebrates, and on microorganisms in the soil. Given the ecological connection of natural systems, these effects can eventually make their way up the food chain, having notable effects on many types and distributions of plants and animals. Acid deposition can increase acidity of water bodies and also erode buildings and monuments (NPS 2011a).

Sulfate, nitrate, and ammonium ions in rain and snow are used as indicators of atmospheric deposition, because they can be directly linked to ecological effects (e.g., acidification of surface waters, nutrient enrichment that disrupts natural systems). Although this pollutant deposition

information has not been gathered for the parkway, monitoring data does exist for Great Smoky Mountain and Shenandoah national parks. Because these parks are at either end of the parkway, their monitoring results are useful in understanding air quality conditions and trends for the parkway and the region as a whole.

Park scores for atmospheric deposition are calculated by multiplying nitrate or sulfur concentrations in precipitation by a normalized precipitation amount. Several factors are considered in rating deposition condition, including natural background deposition estimates and deposition effects on ecosystems. Estimates of natural background deposition are approximately 0.25 kilograms per hectare per year in the eastern United States.

Certain sensitive ecosystems respond to levels of atmospheric deposition at about 1.5 kilograms per hectare per year. Evidence is not currently available that indicates that wet deposition amounts less than 1 kilograms per hectare per year cause ecosystem harm. Therefore, parks with wet deposition less than 1 kilograms per hectare per year are considered to be in “good” condition; parks with from 1–3 kilograms per hectare per year are in “moderate” condition; parks with greater than 3 kilograms per hectare per year are have a “significant concern”.

Based on this methodology, table 25 shows monitoring results for atmospheric deposition levels and trends for Great Smoky Mountains and Shenandoah national parks (NPS 2010b). Results for these parks are included to better understand regional air quality conditions and to infer likely atmospheric deposition levels for the parkway.

Most sources of air pollution affecting the parkway come from outside the parkway boundary; they are expected to continue to contribute to poor air quality over the coming years because of projected increases in population and development. As more people move to the region, air pollution from automobiles, industry, construction, and

other human activities is also anticipated to increase. Air pollution sources from within the parkway is also expected to continue to contribute to poor air quality, with the major contributor being motor vehicle emissions from visitors and commuters traveling the

parkway. For more information about the effects of these pollution sources on the air quality of the parkway, see the “Air Quality” section of chapter 4.

**TABLE 25. AIR QUALITY CONDITIONS AND TRENDS—ATMOSPHERIC DEPOSITION**

<b>Air Quality Indicator</b>	<b>Air Quality Condition</b>	<b>Air Quality Trends</b>
Atmospheric Deposition—Nitrogen		
Blue Ridge Parkway	No data available	No data available
Great Smoky Mountains National Park	Significant Concern	None (Stable)
Shenandoah National Park	Significant Concern	None (Stable)
Atmospheric Deposition—Sulfur		
Blue Ridge Parkway	No data available	No data available
Great Smoky Mountains National Park	Significant Concern	None (Stable)
Shenandoah National Park	Significant Concern	Improving

## CULTURAL RESOURCES

### PREHISTORIC AND HISTORIC SETTING

The Blue Ridge Parkway contains important cultural resources reminiscent of human use over time as well as ongoing use within the boundaries of what is now the parkway. Archeologically in the Blue Ridge region of the Appalachian Mountains, there is evidence of Paleoindian habitation that goes back some 10,000 years ago (Ward and Davis 1999:1-5). There is a continuum from Paleoindian times to present Blue Ridge habitation and transportation. In this region, different peoples have lived in and traversed the mountains as hunters and gatherers, as travelers and visitors, as village dwellers, as homesteaders and farmers, and as self-sufficient makers of tools and crafts.

Major and minor north-south and east-west trade and transportation routes existed through the mountains as prehistoric and historic Indian trails (Tanner 1996:640–643). Such trails became the paths that European American pioneers followed (Rives 1997:10), including early scientists such as William Bartram (1739–1823) who first published his observations about the Cherokees' way of life and their Blue Ridge environment in 1791 (Bartram 1791). Such trails seemingly have existed from the Paleoindian period (before 8000 BC), through the Archaic (8000–1000 BC) and Woodland (1000 BC to AD 1600) periods, into historic times (after AD 1540) when the Spanish explorer Hernando De Soto (1496–1542) “ventured across the southern end of the Blue Ridge in 1540 seeking gold” (Rives 1997:10). Archeological sites of these periods can be found within the parkway boundaries.

European American settlement began in the early 18th century and, in a sense, it continues today because of the encroaching population growth occurring near certain sections of the parkway. Yet rich traditions remain of American Indian heritage, primarily represented by the Eastern Band of Cherokee Indians at the southern end of the parkway

(Duncan and Riggs 2003) and by various Blue Ridge communities maintaining southern Appalachian traditions of storytelling, vocal and instrumental music, dancing, and crafts production (Olson 1998). An example is Floyd, Virginia, 8 miles from the parkway whose general store is the focus of Friday night traditional mountain dancing and mountain music typical of the local community and region, with banjo and guitar plus square dancing, clogging, and flatfooting. People congregate at the Floyd General Store to participate and enjoy the music and dancing and occasional storytelling (Edwards 2002). The store's folk traditions are supported by the community; the store is a place for community cultural expression.

Much literature exists about the expressive folk culture of southern Appalachia—how it developed as European American settlers adapted to the mountains with subsistence farming coupled with hunting and gathering, how it was revived as industrialization influenced and changed even isolated local mountain economies, and how it continues. This document's bibliography includes a variety of references to emphasize southern Appalachian cultural continuity, change, and revitalization. Four references are mentioned here as descriptive and analytical classics: *The Handcraft Revival in Southern Appalachia, 1930–1990* by Garry Barker (1991); *Handcrafts of the Southern Highlands* by Allen Eaton (1973, first published in 1937); *Blue Ridge Folklife* by Ted Olson (1998); and *All That Is Native and Fine* by David Whisnant (1983).

For the American Indian heritage associated with the parkway, especially that of the Eastern Cherokee who remained east avoiding the 19th century removal to Oklahoma, the Cherokee Heritage Trails Guidebook by Barbara Duncan and Brett Riggs (2003) is an invaluable source. The idea of heritage trails for different subjects, such as Cherokee culture and Appalachian crafts and music, to preserve cultural traditions but at the same time promote economic benefits through

coordinated educational and recreational tourism, is discussed by Becky Anderson (2003) in an article “The Blue Ridge Heritage Initiative: Partnerships to Preserve Traditions and Promote Positive Change” (Anderson 2003). “The Blue Ridge Parkway is more than a road” (Medford 2003); it is a corridor with places of cultural expression that links other places of cultural expression on such heritage trails.

### **HISTORICAL DEVELOPMENT OF THE PARKWAY**

The idea for a scenic road winding through the Blue Ridge Mountains was first proposed in 1909 by Colonel Joseph Hyde Pratt, the director of the North Carolina Geological and Economic Survey. Pratt understood the potential impact of the automobile on travel and sought to use it to promote tourism and economic growth in North Carolina. As a result, Pratt began to publicize his idea to construct a roadway along the summit of the Blue Ridge Mountains. Pratt’s proposal called for the highway to extend from Marion, Virginia, south to Tallulah Falls, Georgia, where it would link to highways leading to Washington, D.C., and Atlanta, Georgia. A chain of hotels would be situated along the 350 mile roadway. The road, which Pratt thought would be one of the best scenic highways in the country, was to be known as the “Crest of the Blue Ridge Highway.” By 1912, Pratt and his crew of men had surveyed the route and determined that due to the sparse population in the surrounding area, the highway should be a toll road. Pratt was able to raise money to construct a small portion of the road between the towns of Altapass and Pineola in northwestern North Carolina. However, involvement of the United States in World War I forced construction to halt and put an end to Pratt’s plan for the Crest of the Blue Ridge Highway (Historic American Engineering Record 1998).

The 1920s saw a renewal of the movement calling for national parks in the eastern United States, which had been active prior to World War I. In the early 1920s, business groups in

Tennessee and North Carolina sought to increase tourism in their states by promoting the idea of creating a national park at the Great Smoky Mountains. At the same time, similar groups in Virginia hoped to create a national park in the Shenandoah Valley. As a result, Secretary of the Interior Herbert Work formed the Southern Appalachian National Park Committee in 1924 to select a site for a national park.

In late 1924, the Southern Appalachian National Park Committee recommended that parks be established at the Blue Ridge Mountains in Virginia and at the Great Smoky Mountains in Tennessee and North Carolina. By 1926, Congress authorized the establishment of Great Smoky Mountains National Park in North Carolina and Tennessee, Shenandoah National Park in Virginia, and Mammoth Cave National Park in Kentucky, but it would be another decade before these parks would officially open.

In 1928, the Eastern National Park-to-Park Highway Association was established by Congressman Maurice Thatcher of Kentucky. This organization lobbied for the creation of a federally funded highway that would connect the newly created national parks with Washington, D.C., as well as historic sites under development at Williamsburg, Jamestown, and Yorktown, Virginia. The highway would become the Colonial Parkway. The National Park Service was overseeing the construction on the Colonial Parkway when, in 1933, Secretary of Interior Ickes turned the Blue Ridge Parkway project over to the National Park Service as well. The new road through the Blue Ridge Mountains remained officially a Public Works Administration endeavor, but the National Park Service would take the lead in its planning.

With the establishment of Shenandoah National Park in 1936 and Great Smoky Mountains National Park in 1937, a movement grew to create new and better roads in and around the new parks. The purpose of the parkway was to link the two national parks with a road designed for pleasant motoring, as well as to conserve and

interpret the unique natural and cultural resources of the central and southern Appalachian highlands while providing much needed employment. Rather than just a park-to-park connection, however, the parkway was conceived and planned as an elongated national park providing recreational and park activities. Traveling the parkway was intended to be a “ride-a-while, stop-a-while” experience, complete with scenic pullouts, recreation areas, and visitor contact facilities. When construction began, it was the longest federally planned roadway in the country.

In 1933, the parkway had been authorized as a New Deal public works project; initial construction funds (\$4 million) for the parkway were allocated through the Public Works Administration under authority of the National Industrial Recovery Act of June 16, 1933. At that time, President Franklin D. Roosevelt had visited Virginia’s first Civilian Conservation Corps camp while the enrollees were working on Skyline Drive through Shenandoah National Park. Impressed with what he saw, Roosevelt endorsed the concept of constructing a scenic motor way linking the two recently established eastern national parks. After much wrangling in Congress over acquisition, funding, and location of the road, it was determined that the parkway should follow the crest of the southern Appalachian Mountains through western Virginia and North Carolina and that the necessary rights-of-way should be purchased by the states and then turned over to the federal government to be administered by the National Park Service. Although the plan had been in the works for two years, actual construction of the parkway did not begin until September 11, 1935, when the first contract was let for section 2-A extending 12.5 miles from the Virginia-North Carolina state line to Cumberland Knob, North Carolina.

Construction proceeded slowly at first, as work crews conducted surveys deep into the mountains and realized the enormity of the task. Among the obstacles encountered were a lack of maps, reluctant landowners, extreme weather conditions, isolated and rocky terrain, and snakes. Many mountain roads

were little more than ruts and could not accommodate the equipment needed for construction. Foremost in the minds of the surveying crews was the desire to create as little scar on the landscape as possible. Considerable care was taken to design and construct a road so that it blended with its natural surroundings.

National Park Service involvement with the parkway came in 1936. Construction and administration of the parkway by the National Park Service was authorized by Congress on June 30, 1936. Thereafter, the National Park Service established an administrative organization for the parkway, in Roanoke, Virginia. Through a cooperative agreement with the Bureau of Public Roads, the National Park Service used the bureau’s road-building technical assistance and expertise to create what became the nation’s first rural national parkway. The Bureau of Public Roads and its successors—the Public Roads Administration and Federal Highway Administration—oversaw the construction of the parkway until its completion in 1987.

The Blue Ridge Parkway has been described as “the genius” of landscape architect Stanley W. Abbott, who was Resident Landscape Architect of the parkway, and later, Acting Superintendent. Though Abbott had a profound influence on the design of the road, other noteworthy contributors to its design were Edward H. Abbuehl and Hendrik E. van Gelder, the parkway’s landscape architects; Harold J. Spelman, the Bureau of Public Road’s district engineer; and William Austin and W.I. Lee, Bureau of Public Road engineers. R. Getty Browning, North Carolina Department of Transportation’s Chief Location Engineer, played an instrumental role in winning the decision for the parkway to be located in North Carolina and helped develop the route’s alignment there. In fact, the construction and development of the parkway was the collective effort of many individuals, from President Roosevelt to the employees of the construction companies who actually constructed the roadway. Those individuals included Secretary of the Interior Harold L. Ickes (who selected the southern

route of the parkway and chose its name), members of Congress from Virginia and North Carolina, employees of the National Park Service and Bureau of Public Roads, officials of the state governments of North Carolina and Virginia, enrollees in the Civilian Conservation Corps, the Works Progress Administration, Emergency Relief Administration, the Civilian Public Service, and countless other individuals in the public and private sectors.

Following existing practice, the road was designed and constructed in sections, 20 in Virginia and 24 in North Carolina. Construction proceeded as land was purchased, rights-of-way were approved, and contracts were secured through the Bureau of Public Roads. Construction in Virginia began in February 1936 on sections 1-P and 1-A. Section 1-A, extending from Rockfish Gap to Jarmans Gap, would be transferred to Shenandoah National Park in 1961. During the 1930s progress on the parkway remained steady and on December 19, 1936, section 1-P, extending 8.276 miles from Adney Gap to Pine Spur, 17 miles south of Roanoke, was open to visitors. By late December 1939, a 140-mile section of the parkway extending from Adney Gap to U.S. 421 at Deep Gap, North Carolina, was open to the public and more than 300 more miles of the roadway were under construction. When work halted in 1942 because of the onset of American involvement in World War II, some 330 miles of the parkway were under construction—170 miles had been paved and 123 miles had been surfaced with crushed stone.

An NPS master plan covering the entire length of the Blue Ridge Parkway was approved in August 1936. This plan included 19 recreational areas or wayside parks that Abbott referred to as “beads on a string, the rare gems in the necklace.” These areas included Humpback Rocks (section 1-C), Lick Log Spring (section 1-F), Peaks of Otter (section 1-J), Pine Spur (section 1-P), Smart View (section 1-Q), Rocky Knob (section 1-S), Fishers Peak (section 1-W), Cumberland Knob (section 2-A), The Bluffs (section 2-C), Tompkins Knob (section 2-E), Linville Gorge

(section 2-J), Crabtree Creek (section 2-M), Mount Mitchell (section 2-N), Craggy Gardens (section 2-P), Bent Creek (section 2-S), Mt. Pisgah (section 2-T), Pigeon River Falls (sections 2-U and V), Tennessee Bald (section 2-V), and Richland Balsam (section 2-W).

In October 1935, funds were made available by the Resettlement Administration for the purchase of lands at Pine Spur, Smart View, and Rocky Knob in Virginia and Cumberland Knob and The Bluffs in North Carolina. These five areas were then developed as Recreation Demonstration Areas and formed the first wayside parks along the parkway.

During the 1930s and early 1940s, Public Works Administration, Civilian Conservation Corps, and Emergency Relief Administration employees, as well as day laborers, performed the important tasks of landscaping the parkway and developing recreational parks along its route. This work included grass seeding, sodding, tree and shrub planting, fence building, small lake construction, erosion control, soil conservation, removing dead and downed timber, selective timber cutting, and “vista clearing.”

The Works Progress Administration, a Depression-era public works program, hired many men for construction projects on the parkway. The purpose of the Works Progress Administration was to put as many men to work as possible. Hand labor was used extensively on the parkway, when power equipment might have been more efficient. Works Progress Administration crews cleared brush, drilled rock for blasting, and provided other sorts of manual labor. In 1941, a Works Progress Administration project began on parkway sections in Patrick, Floyd, and Franklin counties, Virginia. The 46-man project crew was assigned to landscape work and the construction of a sewer system for Rocky Knob Park. Over the years, the Works Progress Administration workforce increased and crews carried out landscape improvements over parkway segments in Virginia.

Four Civilian Conservation Corps camps provided laborers for parkway development projects during 1938 to 1941—Camp NP-21, established at The Bluffs in Alleghany County, North Carolina, in October 1937; Camp NP-14, established at Rocky Knob in Floyd and Patrick counties, Virginia, in November 1937; Camp NP-15, in Kelso, Virginia, was involved in state forestry work and was assigned to work at Peaks of Otter in Bedford County, Virginia, in April 1939. Camp NP-29, established at Pipers Gap near Fisher Peak in Carroll County, Virginia, was assigned to the parkway in November 1940. This camp used African American workers and performed landscape improvement work on the southernmost Virginia sections of the parkway (Harley 2007).

After the United States entered World War II and the Civilian Conservation Corps program was terminated, conscientious objectors enrolled in Civilian Public Service camps that replaced the Civilian Conservation Corps laborers. The Civilian Public Service camps helped develop the recreational areas at Crabtree Falls in North Carolina and Peaks of Otter in Virginia.

In early 1942, the National Park Service authorized National Park Concessions, Inc., to provide essential visitor services on completed sections of the parkway. In the spring, the concessioner opened a “sandwich and picnic supply shop” at Cumberland Knob, the first concessioner-operated facility on the parkway. To provide more accommodations, the National Park Service constructed a 24-room lodge, coffee shop, and gasoline station at The Bluffs. (The Bluffs was renamed Doughton Park in the early 1950s in honor of retired congressman and long-time parkway supporter Robert L. Doughton, a native of the region whose family once owned much of the land taken for the parkway). This land consisted of some 5,400 acres that was acquired through condemnation proceedings by the Resettlement Administration. Completed in 1949, The Bluffs concession facilities were the first to provide meals and lodging on the parkway. The Bluffs, which included hiking and equestrian trails, was the

largest area acquired under this public works program and Doughton Park remains the largest recreational area on the North Carolina section of the parkway.

Although work on the road was halted during World War II, the states of Virginia and North Carolina continued to acquire land for the parkway. By 1945, the location of the parkway in Virginia had been established. In 1946, the Public Roads Administration began transferring the responsibility for maintaining completed sections of the parkway to the National Park Service, the first such transfer being the 140-mile section of the finished roadway between Adney Gap, Virginia, and Deep Gap, North Carolina. The National Park Service acquired the Moses H. Cone estate (now Moses H. Cone Memorial Park) in 1949 and the estate of Julian Price (now Julian Price Memorial Park) in 1950.

Construction and development of the parkway resumed in the 1950s. During the early part of that decade the Linville Falls tract was purchased with funds provided by John D. Rockefeller, Jr. The Museum of North Carolina Minerals, at Gillespie Gap in Mitchell County, North Carolina, opened to the public in 1955. The implementation of Mission 66, a federally sponsored program to improve infrastructure in national parks after World War II, began in 1956 and ended in 1966. Mission 66 funding was used to construct visitor centers and an amphitheater at Peaks of Otter (1957), improve self-guiding trails, enhance parkway interpretive programs and exhibits, and reconstruct a pioneer mountain farm with a visitor center at Humpback Rocks, Virginia, in 1956. The museum was developed under a joint agreement with the state of North Carolina and was also funded as a Mission 66 project.

At Craggy Gardens, a small visitor comfort station built in 1952 was converted to a visitor center in 1957. The Museum of North Carolina Minerals, at Gillespie Gap in Mitchell County, North Carolina, opened to the public in 1955. The museum was developed under a joint agreement with the State of North Carolina and was also funded



as a Mission 66 project. By 1959, the National Park Service had acquired all lands needed for parkway construction in Virginia. At that time, 348 miles of the parkway had been paved, 22 miles had been graded, and 48 miles were under construction.

The Roanoke section of the parkway opened to visitors in July 1965 and the North Carolina section, with the exception of the 7.7-mile stretch around Grandfather Mountain, was completed two years later. In 1967, the assistant Blue Ridge Parkway superintendent moved to an office in Asheville, North Carolina and, in 1968, parkway management staff members moved to Asheville where they would help the assistant superintendent with the operation and development of the North Carolina section of the road. In January 1972, the superintendent and his staff also left Roanoke for Asheville, thus completing the move of parkway headquarters from Roanoke. The parkway implemented a unit management concept, with an assistant superintendent serving as unit manager in each state. After many years of planning, the Folk Art Center, a cooperative effort of the National Park Service, Southern Highland Handicraft Guild, and the Appalachian Regional Commission, formally opened in Asheville in April 1980.

The last section of the parkway—the Grandfather Mountain section—was completed during the 1980s. To preserve the ecologically fragile environment on the steep southeastern slopes of the mountain, the Linn Cove Viaduct, a 1,200-foot suspended section of the parkway, was designed and constructed. Considered to be an engineering marvel, the viaduct represents one of the most successful fusions of roadway and landscape on the parkway. The American Society of Civil Engineers and the Prestressed Concrete Institute each gave the viaduct awards of excellence and it also received a federal Design Achievement Award. Although the last segment of the viaduct was erected in late 1982, the Grandfather Mountain section was not completed for several more years. The parkway was officially dedicated on

September 11, 1987—52 years after the road’s construction began.

In October 2001, the National Park Service and the National Council for the Traditional Arts officially dedicated and opened the first phase of the Blue Ridge Music Center at the base of Fishers Peak near the Virginia/North Carolina state line. Planning for the music center had begun more than a decade before when the city of Galax, Virginia, long known for its link to traditional and old-time music, donated land to the Blue Ridge Parkway for the construction of a facility devoted to the preservation and interpretation of regional music. The first phase of the project consisted of an outdoor amphitheater, an instrument builders’ shop, restrooms, and parking facilities.

## **THE COMPLETED PARKWAY**

Under the direction of NPS landscape architects, the completed parkway followed a narrow corridor in a carefully manipulated landscape with a right-of-way of approximately 800 feet, or about 125 acres per mile, for most of its distance. That distance widened at many points to include a series of recreational “parks” or waysides including mountain groups, country estates, and wild areas. Today, wayside developments include 9 campgrounds, 3 inns, and 15 picnic areas, as well as 13 visitor centers, 20 campfire circles and amphitheaters, approximately 300 miles of hiking trails, several museums, and numerous cultural exhibits and natural areas.

Overall, 26 tunnels were blasted to construct the parkway through the steep mountain ridges and dozens of bridges were needed to make rivers and creeks passable. More than 200 parking areas, overlooks, and developed areas were incorporated into the design so that motorists could enjoy a leisurely and pleasurable drive through the mountains. The road itself averages 3,000 feet above sea level, ascending to 6,053 feet above sea level at the Richland Balsam overlook in North Carolina, and descending to 649 feet above sea level at the James River in Virginia.

Unlike earlier parkways, the road was in the mountains away from cities. Hundreds of scenic easements and agricultural use leases were negotiated with parkway neighbors to ensure views of rustic rail fences, livestock, and shocks of corn and wheat with no intrusive billboards and minimal residential development. In contrast to earlier roads in national parks, the parkway ran through settled countryside as well as wild mountain landscapes. It follows the Blue Ridge for the first 355 of its 469 miles. In the remaining 115 miles it crosses some of the highest and most rugged terrain in the southern Appalachians, including the Black Mountains, Great Craggies, Pisgah Ledge, Great Balsam, and Plott Balsam ranges.

In contrast to Shenandoah's Skyline Drive, the parkway was not planned as a ridge-line route, although extensive segments follow the ridge crests. Instead, variety was introduced by routing the road along mountain sides, plateaus, streams, and through broad river valleys, providing visitors with one of the most diversified motoring experiences in the world. As designed, the scenic road traverses a wide range of topographic zones and natural features associated with the central and southern Appalachians, including high mountains clothed in spruce/fir forests; rolling farmland characterized by cultivated fields and pasture; mountain ridges and valleys, supporting lush deciduous forests; and rivers and streams, featuring waterfalls and other scenic attractions. Likewise, the designers provided the road with a high standard of grade and curvature so that motorists could safely devote their attention to the scenery.

Although construction of the parkway extended over more than five decades, all sections contain features that illustrate the distinctive design characteristics of a rural national parkway conceived in the 1930s. Efforts continue to acquire land contiguous to the parkway boundary to provide better protection for land and views that the National Park Service already owns. Some 17 million visitors pass along the scenic parkway each year and more than 600 million visitors

have used the parkway since its inception. Today, the parkway's permanent headquarters facility is in a new building on Hemphill Knob in Asheville, North Carolina, which was completed in 1999 and dedicated in 2000.

### **A Vision of Appalachia**

An important aspect of the Blue Ridge Parkway's landscape architecture that is not well known by visitors is that the parkway strategically employs vernacular architecture and landscape design to evoke a romantic representation of the traditional mountain culture of the central and southern Appalachian highlands for the motoring public. In its display and use of the "pioneer" structures that existed before the parkway was developed, the parkway effectively became an outdoor exhibit space for Appalachian vernacular architecture. During the planning phase, parkway designers made decisions to keep dozens of cabins, barns, outbuildings, and other wood-frame structures along the parkway to establish an imaginative evocation of rural mountain life, while other structures that did not fit this objective were removed. This design ethos was mirrored in much of the new roadway construction. The stonework masonry of the roadway's many bridges, tunnels, and guardwalls was meant to symbolize a romantic, rustic vision of a world made by hand (NPS 2011b).

The forces driving this design approach were likely multilayered and deeply rooted in cultural ideas held during the 1930s and beyond. Historical scholarship on the development of the Blue Ridge Parkway describes the influence of contemporary cultural biases and anxieties that were common during the parkway's early conception, the notion of the "parkway as panacea" for Depression-weary Americans, the nascent historic preservation movement at that time, and in the decades following World War II, a growing reaction against the homogenization of culture and modernity nationwide (Whisnant 1983; Whisnant 2006).

Even while other branches of the federal government, like the Tennessee Valley Authority, were unabashed in their embrace of modern architecture that avoided references to the past, the parkway purposefully strove to provide to the American public an idealized vision of Appalachia “frozen in time,” where the existing environment from which the parkway was built was staged and enhanced to achieve the greatest effect. In fact, the National Park Service moved most of the parkway’s pioneer structures to their present location to make them more accessible to the motoring tourist and ultimately to facilitate interpretation of regional mountain life, albeit an idealized version of that story (NPS 2011b).

During the 1930s, employees of the Civilian Conservation Corps program continued to construct trail shelters, comfort stations, and other park amenities using hewn logs and shake roofs, continuing an earlier “rustic” aesthetic. The holistic approach to designing and locating the parkway that National Park Service landscape architects Stanley Abbot and Tom Vint initiated was maintained throughout the parkway’s long and complicated construction history. As a result, the parkway is not simply a park road, but became a park unto itself, formed and created by designers that integrated innovative roadway engineering with highly sophisticated landscape design (NPS 2011b).

### **European Settlement—19th Century Homestead Sites**

The theme of rural Appalachian cultural history in the parkway is emphasized and represented by a number of 19th century homestead and farmstead sites. The Humpback Rocks Mountain Farm, created by the National Park Service during the 1950s by moving five late-19th century pioneer structures from their original locations to the site, provides a primer on the vernacular buildings to be seen along the parkway. The Johnson Farm, owned by three generations of the Johnson family from 1852 to 1941, is the most complete mountain farmstead currently

being preserved along the parkway. The farmstead includes a one-story saddlebag log house, a double-crib log structure, a spring house, and a meat house as well as a corn house that was moved to the site during the 1970s.

The Polly Wood’s Ordinary log cabin was moved to its current site in 1964 and may be the oldest surviving structure along the parkway. The building originally served travelers on the Buchanan to Liberty Turnpike and visitors to Peaks of Otter from the 1830s to the 1850s.

The Trail, Puckett, Brinegar, Caudill, and Sheets cabins are all 19th-century log cabins that the National Park Service retained to illustrate the idea of the isolated existence of Appalachian mountain families. These structures also demonstrate the efforts of early NPS planners to save log structures over other types of larger farm houses. The Trail Cabin is a good example of the simpler type of log cabin—a single square pen with a single door and no windows. Its chief interest, however, is its spectacular location on the edge of a steep drop commanding distant views. The Caudill Cabin was regarded by landscape architect Stanley Abbott as “one of the finest, if not the finest, examples of pioneer cabins” along the parkway. The Puckett Cabin is associated with stories of Mrs. Orleana Hawks Puckett, a busy mountain mid-wife of the late 19th century. The Brinegar Homestead, a building complex consisting of a cabin, granary/root cellar, and spring house that date from the mid-1880s, was listed in the National Register of Historic Places in 1972.

The Jesse Brown Farmstead, consisting of a cabin, spring house, and the relocated Cool Springs Baptist Church, is believed to date from the pre-Civil War period and contains examples of early pioneer log construction. The Saunders farm, a property that was owned by African Americans, features remnants of terraced fields, is considered to be representative of a mountain farmstead site.

### **European Settlement—19th to Early 20th Century Industrial / Transportation Sites**

Surviving examples of 19th and early 20th-century industrial and transportation sites are also along the parkway. The reconstructed railroad and restored railroad grade of the Irish Creek Railway, a narrow gauge logging railroad constructed and operated by the South River Lumber Company of Cornwall, Virginia, between 1916 and 1939, is a reminder of the extensive timber operations conducted in the Blue Ridge region during the early 20th century.

Remnants of a 1-mile portion of the James River and Kanawha Canal are within the parkway boundaries. Constructed between 1842 and 1849 as part of a waterway that extended from Richmond to Buchanan, these remnants include two locks and a culvert. The waterway, in turn, was part of an ambitious transportation scheme designed to capture Virginia's share of the trade between the East Coast and the trans-Appalachian west. One of the locks, No.7, along with a short section of the canal, was reconstructed by the National Park Service during the Mission 66 program.

Of all the points of interest along the parkway, the Mabry Mill complex is perhaps the best known. The complex features a reconstructed mill, blacksmith's shop, cabin, and washhouse that were developed and operated by Ed and Lizzie Mabry between 1898 and 1938. Ed Mabry put together most of the machinery, constructed his own buildings, and served as miller, blacksmith, wheelwright, and carpenter for the surrounding area. In the National Park Service's adaptation of the Mabry Mills for parkway visitation, many of the mill's original materials were replaced and the setting was substantially altered. The National Park Service converted the mill complex into a museum exhibit and, in the process, compromised the integrity of the other structures beside the mill by their relocation and alteration. Nevertheless, these buildings serve as part of a countryside museum exhibit created to be a popular attraction along the parkway.

### **Turn of the 20th Century Country Estates**

By the turn of the 20th century, the Blue Ridge region was viewed by persons of wealth as a desirable location for construction of country estates and summer retreats. The Moses H. Cone and Julian Price memorial parks, both of which were donated to the parkway in 1949 and 1950, are prime examples of these developments along the parkway.

Moses H. Cone, a self-educated man who had made a fortune in the southern textile industry and had become known as the "Denim King," began to purchase land near Blowing Rock, North Carolina, in 1893. He eventually acquired more than 3,500 acres on the slopes of Flat Top and Rich Mountains and some 500 acres of rolling farmland and patches of virgin hardwoods and evergreens. On these lands he developed apple orchards, a stock farm, two "parks" in which he protected whitetail deer imported from Pennsylvania, and carriage roads. He also impounded several lakes and ponds that were stocked with fish. The park, which has been established as a memorial to Cone, includes a 2- and 1/2-story, 20-room neo-Colonial style manor house ("Flat Top Manor") that currently houses the Parkway Craft Center. The center features handicraft demonstrations operated by the Southern Highland Handicraft Guild. Other features of the memorial park include a carriage house, servants' quarters, an apple barn, 25 miles of carriage roads, dams at Bass and Trout lakes and the Upper Pond, and the Cone cemetery. This area is currently being evaluated under a separate planning effort and is not addressed specifically in this document.

Although Cone Memorial Park was intended to preserve the cultural resources of a historic estate, Julian Price Memorial Park, a 3,900-acre enclave immediately south of Cone Memorial Park, has been developed with a focus on outdoor recreation. Price Memorial Park, which served as the retreat of the president and founder of the Jefferson Standard Life Insurance Company of Greensboro, North Carolina, beginning in the

late 1930s, features a variety of short trails, a lake, and popular picnic and camping areas.

## HISTORIC STRUCTURES

### List of Classified Structures

The List of Classified Structures is a computerized, evaluated inventory of all historic and prehistoric structures having historical, architectural, or engineering significance in which the National Park Service has, or plans to acquire, any legal interest. Included are structures that individually meet the criteria of the national register or are contributing resources of sites and districts that meet national register evaluation criteria. Also included are other structures—moved, reconstructed, and commemorative structures as well as structures achieving significance within the last 50 years—that are managed as cultural resources because of management decisions that have been made pursuant to planning processes.

At present, the parkway's List of Classified Structures includes 232 entries. Of those entries, 90 buildings, 2 sites, and 133 other structures contribute to the parkway's eligibility for inclusion on the national register as a historic district. The cultural resources staff of the NPS Southeast Regional Office is currently updating and preparing a revised comprehensive list for the parkway that includes updated and revised significance statements and recommendations for treatment and management of resources that contribute to the proposed parkway national historic landmark designation.

### Properties Listed in the National Register of Historic Places

The only historic property in the Blue Ridge Parkway that is individually listed in the national register is the Brinegar Cabin. At Doughton Park (milepost 238.5) in Alleghany County, North Carolina, the cabin (and associated springhouse and granary) was

listed on January 20, 1972, under national register criterion C (architecture). Constructed between 1880 and 1886, the one-story, weather-boarded log cabin, along with a later frame shed addition, rests on an uncoursed fieldstone foundation.<sup>3</sup> It is a good example of an Appalachian mountain homestead from the late 19th century and it is representative of the type of construction used by settlers in the area before the 20th century.

### National Register Listings

In June 1992, a draft historic resource study and national register nomination form were prepared for the parkway by Ian J. W. Firth of the School of Environmental Design, University of Georgia. Firth proposed nominating the parkway to the national register as a historic district having national significance and developed a list of contributing resources for the proposed district. The significance of the parkway may elevate it to the level of a national historic landmark. The draft nomination form indicated that the parkway related to the following national historic landmark themes

- Transportation; subtheme—Automobiles, Buses, Wagons, and Highways
- Landscape Architecture
- Conservation of Natural Resources; subtheme—The Conservation Movement Matures, the Great Depression and Conservation

In the 1992 Historic Resource Study, Firth recommended that the Blue Ridge Parkway's period of significance be established to cover the years 1935–42; the proposed historic district would include the exhibits of pioneer buildings, such as log cabins dating from the first half of the 19th century, developed by the National Park Service. The rationale behind

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<sup>3</sup> Uncoursed masonry is an architectural term that refers to an irregular patterned wall without continuous horizontal joints.

this period of significance was that the prewar sections of the parkway were deemed to be the most important sections of the parkway and that those areas met the national register criteria of significance. At that time the postwar resources were less than 50 years of age and Firth felt that additional time would be needed to more fully assess significance of the parkway's postwar sections.

Firth's 1992 study did not result in a determination of national register eligibility or listing for the parkway and has been superseded by Firth's draft Historic Resource Study (draft, 2005) and his recommendation of national historic landmark designation for the parkway. Firth prepared a draft national historic landmark nomination, extending the parkway's period of significance to 1955. The final nomination is likely to extend this period to include post-1955 resources that contribute to the exceptional significance of the parkway.

### **Statement of Historical Significance**

The following statement of historical significance is derived from the 1992 Historic Resource Study and may be revised by the updated historic resource study and the national historic landmark nomination for the Blue Ridge Parkway that are currently underway. This general management plan will include a summary of the analysis provided in the final nomination, when available.

The nationally significant Blue Ridge Parkway is the prime example of a long distance road designed for recreational motoring to provide visitors with quiet, leisure travel, free from commercial traffic and the congestion of high-speed highways—a function that it continues to serve today. Unlike other national parks, the parkway is significant because it was purposely constructed for recreational motoring, a new form of leisure. The parkway itself—a serpentine road set in a carefully manipulated landscape—pioneered a new type of conservation, remarkable for its synthesis of diverse land management programs that created “a museum of managed American countryside.”

As an example of pre- and post-World War II era automotive rural parkway design, the Blue Ridge Parkway retains a high degree of integrity. Designated as a National Historic Civil Engineering Landmark by the American Society of Civil Engineers, the parkway is recognized throughout the world as an example of landscape and engineering design achievements with a roadway that lies easily on the land and blends into the landscape.

The parkway's designers adapted parkway development strategies originating in suburban commuter routes and metropolitan park systems and expanded them to a regional scale, creating a scenic 469-mile roadway linking two of the most prominent eastern national parks—Shenandoah in Virginia and Great Smoky Mountains in North Carolina. Developed as a collaborative effort between the National Park Service and the Bureau of Public Roads, the parkway was conceived as a multipurpose corridor that would fulfill various social, recreational, environmental, and pragmatic functions. The parkway was designed to incorporate the best examples of central and southern Appalachian highlands scenic, historic, and natural features, providing visitors with an idealized vision of America's rural heritage. To maximize scenic views and give visitors the impression that they are in a park with boundaries to the horizon, the parkway was situated in mountainous terrain that early motor roads would have avoided. At frequent intervals the parkway borders expand to encompass smaller parks, recreational areas, and historic sites, many of which include picnic areas and/or overnight accommodations.

Designated as an All-American Road, the parkway's natural and cultural features include spectacular mountain and valley vistas, quiet pastoral scenes, sparkling waterfalls, colorful flowers and foliage displays, and interpretation of mountain history and culture. These features, along with its diverse recreational attractions and its relatively accessible East Coast location, have long made it a high-quality recreational experience and one of the most heavily visited units in the national park system.

## Boundary

The 1992 historic resource study (Firth) recommended that the boundaries of the parkway historic district encompass the existing boundaries of the parkway. Although some sections of the parkway were less than 50 years old, he asserted that it was important to recognize the overall unity of the parkway. The entire route is associated with the New Deal of the 1930s and all sections contain features that illustrate the distinctive design characteristics of a rural national parkway conceived in the 1930s. According to Firth, the value of the parkway as a work of art could only be fully appreciated if it was considered as a whole. This historic district boundary may change, pending the completion of the historic resource study and national historic landmark nomination for the Blue Ridge Parkway, currently underway.

## National Register Eligible Resources

Of the recreation areas that had been developed along the parkway, Firth recommended that the 11 that were included in the NPS pre-World War II master plans should be included in the proposed historic district. These areas are as follows: Smart View, Rocky Knob, Cumberland Knob, The Bluffs (now Doughton Park), Humpback Rocks, Crabtree Falls, Peaks of Otter, Tompkins Knob (now E.B. Jeffress Park), Linville Gorge (the gorge is owned by the U.S. Forest Service and Linville Falls is owned by the National Park Service), Craggy Gardens, and Mt. Pisgah. Although only seven of these areas were acquired before World War II, all were part of the planned route and their mountain and forest scenery was an important part of the parkway from its beginning. Four recreation areas that were acquired after the war in locations not anticipated in the original master plans—Otter Creek, Roanoke Mountain, and the Moses H. Cone and Julian Price memorial parks—were excluded from the proposed historic district, although, according to Firth, Moses H. Cone Memorial Park independently met national register criteria for historical significance and should

be included in the historic district. In the other three areas, the boundaries of the historic district should include the road and roadside landscape improvements as shown on the appropriate Parkway Land Use Maps.

Firth listed 226 resources (91 buildings, 2 sites, 133 structures) as contributing to the historical significance of the proposed Blue Ridge Parkway national historic district. In addition, he listed 10 buildings and 1 structure as potentially contributing pending further research. This list of contributing resources may expand, pending the completion of the historic resource study and national historic landmark nomination for the Blue Ridge Parkway, currently underway. To date, the broad categories of resources that contribute to the historical significance of the parkway include the following.

## THE ROAD

**Roadway Prism.** All sections from 1-B to 2-Z. Section 1-A was not included because it was transferred to Shenandoah National Park in 1961. Includes stabilized side slopes, with associated naturalistic plantings, shown on the Parkway Land Use Maps.

**Bridges.** All stone-faced reinforced concrete arch bridges; concrete slab bridges and steel girder viaducts built between 1935 and 1942.

**Tunnels.** All 26 tunnels, including their stone masonry portals.

**Walls.** All stone retaining walls and rock embankments; all stone parapet walls including the guard walls on sections 2-A, 2-B, and 2-C.

**Drainage Structures.** All stone-lined channels; all stone masonry headwalls to culverts including associated wing walls and stone-lined pools.

**Parking Overlooks.** All 264 overlooks along the roadway; stone masonry details including curbs and drop inlets, steps, walls, and drinking fountains.

**Signs.** Entrance signs featuring the lone pine symbol; place name signs at overlooks; squirrel gun information boards.

## THE LANDSCAPES

**Forests and Woodlands.** All native woodlands with their manipulated edges and cleared views shown on the Parkway Land Use Maps; all areas reforested as part of soil conservation programs.

**Farmlands.** Agricultural patterns of pastures, hayfields, orchards, and tilled areas shown on the Parkway Land Use Maps; all restored land where measures were taken to prevent soil erosion, including areas set aside as wildflower meadows and game food areas; split rail fences in agricultural areas constructed according to traditional patterns.

**Streams and Ponds.** All water features created alongside the roadway.

## THE RECREATION AREAS

**Landscapes.** Forests, woodlands, and high mountain pastures that make up the rural scenery for which these areas were selected.

**Recreational Developments.** All facilities for active recreation and provisions for food, lodging, and motor services at the areas developed as Recreation Demonstration Areas—Smart View, Rocky Knob, Cumberland Knob, and Doughton Park. This includes the trails, picnic areas, and campgrounds, with their associated rustic trail shelters, comfort stations, and pumping stations, built in the pre-World War II years. It includes the combined picnic shelter, sandwich shop, and comfort station at Cumberland Knob and the Trail Lodge Cabins at Rocky Knob. It also includes the post-World War II lodge, coffee shop, and gas station at Doughton Park and the sandwich shop and gas station—now a visitor center—at Rocky Knob, which were constructed in fulfillment of pre-World War II plans.

**Maintenance Areas.** The utility buildings constructed before 1942 with Works Progress Administration and Civilian Conservation Corps labor in the four major (Rocky Knob, The Bluffs, James River, and Gillespie Gap) and three minor (Peaks of Otter, Smart View, and Cumberland Knob) maintenance compounds.

## THE EXHIBITS

### Exhibits of “Pioneer” Buildings and Structures

- Humpback Rocks Mountain Farm  
milepost 5.8
- Johnson Farm  
milepost 85.2
- Polly Wood’s Ordinary  
milepost 86.0
- Bell Springhouse  
milepost 146.6
- Kelley Springhouse  
milepost 150.8
- Trail Cabin  
milepost 154.5
- Rakes Mill Pond Dam  
milepost 162.4
- Mabry Mill  
milepost 176.2
- Groundhog Mountain Tower and Fences  
milepost 188.8
- Puckett Cabin  
milepost 189.9
- Brinegar Cabin  
milepost 238.5
- Caudill Cabin  
milepost 241.1
- Sheets Cabin  
milepost 252.4
- Jesse Brown Farmstead  
milepost 272.5



## Other Sites of Historical Interest with Standing Buildings or Structures

### Maintained Buildings or Structures.

- Irish Creek Railway  
milepost 34.8
- James River and Kanawha Canal  
milepost 63.8
- Sharp Top Summit Shelter  
milepost 86.0
- Moses H. Cone Memorial Park  
milepost 294.0
- Craggy Gardens Shelters  
milepost 364.5
- Buck Spring Springhouse  
milepost 407.7
- Davey Farm and Sundown Cabin  
milepost 455.6

### Other Buildings or Structures.

- Saunders Farm  
milepost 86.0
- Oscar Johnson Farm  
milepost 86.0
- Kelley School  
milepost 149.0
- Whorley House  
milepost 174.1
- Civil War Earthworks at Deep Gap  
milepost 276.3

Firth also contended that 328 resources (256 buildings, 72 structures) along the parkway did not contribute to its historical significance. These categories included additions to the parkway that did not have the same associations or illustrate the same design characteristics as the pre-World War II components. Although the parkway was intended to be a park without visible boundaries, it was not feasible to include landscapes visible from the road that were outside NPS ownership in a historic district. Thus, such landscapes, although integral parts of the parkway's original design, should not be listed as contributing resources.

## NATIONAL HISTORIC LANDMARK DESIGNATION

Preparation of a national historic landmark nomination for the Blue Ridge Parkway is currently underway. The final determination of the parkway's period of significance and the corresponding national register eligibility status of the parkway's contributing and noncontributing resources will be presented at a future date when the nomination is complete. This general management plan will apply those final determinations of national register eligibility and period of significance when they become available.

## CULTURAL LANDSCAPES

According to the National Park Service's *Cultural Resource Management Guideline* (DO 28), a cultural landscape is

. . . a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

Cultural landscapes are the result of the long interaction between man and the land, the influence of human beliefs and actions over time upon the natural landscape. Shaped through time by historical land-use and management practices, as well as politics and property laws, levels of technology, and economic conditions, cultural landscapes provide a living record of an area's past, a visual chronicle of its history. The dynamic nature of modern human life, however, contributes to the continual reshaping of cultural landscapes; making them a good source of information about specific times and places, but at the same time rendering their long-term preservation a challenge.

The Cultural Landscapes Inventory is a comprehensive inventory of all historically significant landscapes in the national park system. This evaluated inventory identifies and documents each landscape’s location, physical development, significance, national register eligibility, condition, integrity, and current management. Inventoried landscapes are listed in or eligible for listing in the national register or are otherwise managed as cultural resources. To automate the inventory, the Cultural Landscapes Automated Inventory Management System was established in 1996 and provides an analytical tool for evaluating information associated with the Cultural Landscapes Inventory.

For the purposes of the Cultural Landscapes Inventory, the Blue Ridge Parkway as a whole is classified as a cultural landscape as a historic designed landscape that reflects national trends in landscape architecture, architecture, and engineering. Recreational areas, mile markers, historic canal locks, views of

waterfalls, scenic easements, open fields, and high mountain landscapes all fall under the umbrella of the greater parkway landscape.

A Blue Ridge Parkway Cultural Landscapes Inventory conducted in 2001 (Lawliss and Hasty) and 2002 (Hasty) identified 16 primary cultural landscapes and 25 corresponding component landscapes within the parkway, shown in table 26 below. To date, the cultural landscapes report for the Mt. Pisgah Developed Area has been completed and the other cultural landscapes reports are in various states of completion. This general management plan incorporates the findings and recommendations of those reports.

Component landscapes and features are continuing to be added to the parkway with new purchases and donations of land to protect the views from the parkway. Currently, identified landscapes and component landscapes in the parkway landscape include the following.

**TABLE 26. IDENTIFIED CULTURAL LANDSCAPES AND COMPONENT LANDSCAPES BY PARKWAY DISTRICT**

District	Landscapes	Component Landscapes	Cultural Landscapes Report (CLR) Status
<b>Pisgah</b>	Mt. Pisgah Developed Area	Buck Springs Overlook Pisgah Inn Mt. Pisgah Campground Mt. Pisgah Picnic Area	CLR complete
	Craggy Gardens	Craggy Gardens Visitor Center Craggy Pinnacle Craggy Gardens Picnic Area	Incomplete
<b>Black Mountain</b>	Crabtree Falls Museum of North Carolina Minerals Linville Falls	n/a	Incomplete
<b>Highlands</b>	Cumberland Knob E.B. Jeffress Park Moses H. Cone Estate Julian Price Memorial Park	n/a	Incomplete but CLR underway
	Doughton Park	Brinegar Cabin Bluffs Lodge Bluffs Picnic Area Doughton Park Campground Caudill Family Homestead Bluffs Coffee Shop and Service Station Doughton Park Maintenance Area	Incomplete but CLR underway

**TABLE 26. IDENTIFIED CULTURAL LANDSCAPES AND COMPONENT LANDSCAPES BY PARKWAY DISTRICT**

District	Landscapes	Component Landscapes	Cultural Landscapes Report (CLR) Status
<b>Plateau</b>	Rocky Knob, Mabry Mill	Smart View Harris Farm Kelley School	Incomplete
<b>Ridge</b>	Peaks of Otter	Peaks of Otter Lodge Sharp Top Tour Road Peaks of Otter Visitor Center John T. Johnson Farm Peaks of Otter Picnic Area Peaks of Otter Campground Saunders Farm	Incomplete but CLR underway
	James River	n/a	Incomplete
	Otter Creek	n/a	Incomplete
	Whetstone Ridge	n/a	Incomplete
	Humpback Rocks	n/a	Incomplete but CLR underway

In March 2003, Scenic America, a national nonprofit organization dedicated to preserving and enhancing the scenic character of America's communities and countryside, designated a 28-mile section of the parkway road in Roanoke County between mileposts 108.3 and 136.4 as one of 10 "last chance landscapes" in the United States. As defined by that organization, a "last chance landscape" is a place of beauty or distinctive community character that "faces imminent and potentially irrevocable harm." Through such designation Scenic America seeks to encourage local, state, and national efforts to preserve the scenic beauty of landscapes before their scenic values are destroyed by development. Since 2003, a partnership of the National Park Service, Roanoke County, FRIENDS of the Blue Ridge Parkway, and Western Virginia Land Trust developed a proactive strategy to protect critical viewsheds and private acreage. Since then, several conservation easements adjoining or near the parkway have been established (Goodman and Scheid 2010).

### **ARCHEOLOGICAL RESOURCES**

No archeological overview and assessment has been conducted for the parkway. Instead, the need for legal compliance related to

development projects in the parkway has prompted the bulk of the parkway's archeological surveys and excavations (Hammersten 1987:2). This has led to the recordation of 117 archeological sites within the parkway boundary to date. Of these, one prehistoric site is recommended eligible for listing in the national register, two sites are recommended not eligible, and the remaining 144 recorded sites are unevaluated.

### **Examples of Archeological Investigations**

Susan Hammersten (1987) provides an overview from Paleoindian times through Archaic and Woodland times into the historic period; David Bushnell excavated an "ancient Indian settlement" in the 1930s, and the findings were published in 1940. Fluted Folsom projectile points of Bushnell's work provide the basis of Paleoindian association (Wild 1991) although some archeologists such as Hammersten (1987:15) hold that the Early Archaic is the earliest period for human occupation of the Blue Ridge area, including the dating of these fluted points. Burton Purrington (1973) conducted investigations of Archaic and Woodland period rock shelters showing successive

occupation. Ellen Ehrenhard (1977) investigated an Archaic site known for its projectile points and other lithic tools. Occupation here continued into Woodland times, showing ceramic variety in household containers. This may be an important village site with time depth.

Elizabeth Horvath and George Smith (1990) conducted archeological investigations related to the Roanoke River and late prehistoric and historic habitation, including a prehistoric quartz quarry. John Cornelison (1993) tested rock shelters in the Fisher Peak area and found projectile points, ceramics, and carbonized corncobs. The time range related to the Archaic and Woodland periods.

### **Brief Overview of Time Periods and Site Types**

In addition to isolated finds of projectile points, campsites, habitation sites, and even village sites have been found. Prehistorically and historically, settlement tended to be in valleys and along water ways with hunting spots on the mountain sides. The parkway offers a potentially rich variety of future archeological studies. Possible topics of archeological investigation include Paleoindian, Archaic, and Woodland indigenous occupations, historic settlement patterns, and perhaps even the construction of the parkway itself.

### **National Register of Historic Places Status**

Of the 117 archeological sites recorded in the parkway, several archeological sites have been identified as potentially eligible, pending evaluation.

The Paleoindian or Early Archaic site excavated by David Bushnell (1940) could be eligible for the national register. Its eligibility potential needs to be evaluated.

Burton Purrington's 1973 rock shelter sites of the Archaic and Woodland periods showing

different occupations over time are potentially eligible for the national register because the vertical layers offer time-depth information and implications about cultural development and change. The same may be said for the Ellen Ehrenhard (1977) Archaic–Woodland site, which is potentially eligible for the national register because of its possible significance as a village site over time.

The 1990 Roanoke River sites of the investigations of Elizabeth Horvath and George Smith are potentially eligible for the national register. The late prehistoric and historic habitation sites need further evaluation.

The sites of John Cornelison's 1993 rock shelter work are examples considered ineligible for the national register because the lack of stratification reduces the potential for discovering future information.

## **ETHNOGRAPHIC RESOURCES**

### **Introduction**

Ethnographic resources are any “site, structure, objects, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (DO 28: *Cultural Resource Management Guideline.*) Starting from the present and going back in time for the continuity of at least two generations, ethnographic resources are identified with peoples, tribes, or groups, including families and communities, traditionally associated with the Blue Ridge Parkway.

The Blue Ridge Parkway currently has a draft ethnographic overview and assessment that lists over 95 sites along the parkway corridor as possible ethnographic resources.

As defined by the National Park Service, an ethnographic overview and assessment "emphasizes the review and analysis of accessible archival and documentary data on

park ethnographic resources and the groups who traditionally define such cultural and natural features as significant to their ethnic heritage and cultural viability. Limited interviews and discussions occur with the traditionally associated people in order to supplement and assess the documentary evidence and identify gaps in the available data" (DO 28: *Cultural Resource Management Guideline*). In this definition, the term "traditionally" has a precise meaning. It refers only to peoples who are "the contemporary park neighbors and ethnic or occupational communities that have been associated with a park for two or more generations (40 years), and whose interests in the park's resources began prior to the park's establishment" (NPS *Management Policies*, chapter 5). Such individuals may include people who actually reside next to parks, as well as people who trace their heritage to natural or cultural resources managed by parks.

The primary purpose of the study is to document such places along the entire length of the 469-mile Blue Ridge Parkway and discuss the local people who identify with each of them. Special attention was given to communities previously located in whole or in part on lands that are currently part of the parkway.

Specifically, this project particularly highlights the following tasks:

- Reconstruct through oral history baseline ethnographic information on the life ways and community structures of people living along the Blue Ridge Parkway at the time the parkway was built.
  - Assess through oral history perceived social and cultural impacts of the establishment of the parkway.
  - Summarize and synthesize existing ethnographic resources pertaining to traditionally associated communities, drawing primarily from published sources clarified by limited ethnographic interviewing to fill in gaps in the documentary record.
- Assess the utility of available ethnographic data for park management: identify significant gaps in the data for projected park needs and focus on park needs, but remain open to the discovery of new and significant resources.
  - Identify traditionally associated communities and define their membership according to a variety of possible factors including geography, occupation, age grade, seasonal use, income level, recreational use, racial identity, national origins, ethnicity, religious practice, or other variables (NPS 2004a).

The ethnographic overview and assessment identifies the following specific ethnographic themes.

### **The Social Context of the Blue Ridge Parkway's Managed Rural Landscapes**

The Blue Ridge Parkway is not a park in the normal sense of the term. Neither "park" nor "road," the Blue Ridge Parkway was constructed to present an image of the region, a series of picture-postcard views and scenes depicting a distinctive part of the country. It crosses through pastures and farms, incorporating ancestral home-places, cemeteries, and other vernacular architecture into its design. The close connection between the design of the parkway and the actual lives of local people are its agricultural leases, which serve as both a visual and ethnographic connection between the parkway and the local people who maintain its agricultural scenes. The parkway also reframed cemeteries and churches in ways that local people value and would like maintained. Even sites assembled by the parkway—like Mabry Mill or Humpback Rocks Farm Museum—have become embedded in local culture in a way that makes them "ethnographic," even if they did not exist in exactly the same form prior to the creation of Blue Ridge Parkway.

## **Agricultural Leases as Ethnographic Resources**

Agricultural leases are a unique kind of cultural resource. Through these leases, ties with particular local families have created a legacy of shared work towards a common goal that resonates not only with the original landscape design of the Blue Ridge Parkway, but also with the agrarian ideals of many local people. At the same time, agricultural leases are clearly important both to the Blue Ridge Parkway and to the leaseholders who, in many cases, have maintained them for generations. Moreover, many current leases were held as private agricultural land by ancestors of current leaseholders prior to the establishment of the Blue Ridge Parkway and continue to have meaning to those local families as part of their traditional way of life. Thus, many of these agricultural leases might be considered “ethnographic landscapes” that the Blue Ridge Parkway and local people have worked to create and perpetuate for the last 75 years.

## **Traditionally Associated Peoples of the Blue Ridge Parkway**

National Park Service policy defines “traditionally associated people” as “groups associated with particular parks [who] typically assign significance to places closely linked with their own sense of purpose, existence as a community, and development as ethnically distinctive peoples.” This definition is also based on an ongoing cultural connection with a park’s “ethnographic resources,” which can be problematic for the Blue Ridge Parkway, which has for the past 75 years has presented its own vision of the people of the Blue Ridge Mountains. This project focuses on the local groups who would seem to have relatively obvious cultural connections to parkway resources, whether or not those connections fit the precise definitions of policy and law. This chapter provides a discussion of the published ethnographically oriented materials concerning specific local communities—as well as fieldwork-generated interviews and

observations—and “identifies new data needs.” Other groups could be added to this list as ethnographic research continues.

## **Nature and Culture in the Blue Ridge Mountains**

Human-caused ecological changes continue to dramatically alter the landscape of the Blue Ridge Mountains. Nowhere is this more apparent than in the recent land-use changes connected with the growth of Roanoke, Boone, and Asheville. Farm scenes have been replaced with manufactured housing. Agricultural leases have been abandoned or converted from pasture and cropland to hayfields. In response, trees have been planted to screen neighboring subdivisions or light-industrial areas, creating a “green tunnel” of leafy foliage where expansive views of adjacent pastures and farms once predominated. Although these recent land-use changes are certainly dramatic, previous land uses and ways of life also left their marks, both on the land and in the memories and traditions of people living today.

From the perspective of historical ecology, the Blue Ridge Parkway’s systematic landscape architectural landscape design is only one way that people have actively changed landscapes in the Blue Ridge Mountains. Understanding the connection of these changing landscapes to local people should help the Blue Ridge Parkway fulfill its goal of perpetuating a “managed countryside” because it helps to explain how local people have themselves managed changing landscapes through the years.

Given the length of the parkway and the number of culturally meaningful places to the thousands of people who might somehow be considered traditionally associated with it, the ethnographic overview and assessment should be seen as only a first step. Still, it does provide a documentation and initial assessment of the ethnographic resources in this very large and popular National Park Service unit. It also discusses the unique relationships that exist between the Blue

Ridge Parkway and the people of the Blue Ridge Mountains based on the parkway's mission to "conserve, interpret, and exhibit the unique natural and cultural resources of the central and southern Appalachian Mountains" (Blue Ridge Parkway 2003).

### **National Register of Historic Places Status**

No ethnographic resources have been formally nominated for listing in the national register as a traditional cultural property. A traditional cultural property is defined as a resource that is eligible for inclusion in the national register because of its association with cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community.

## VISUAL RESOURCES (SCENERY AND VIEWSHED)

### A DESIGNED LANDSCAPE

Scenery was a major political determinant in the location and design of the Blue Ridge Parkway. As a matter of road design, scenic features and views were emphasized by alignment of the roadway and placement of overlook parking areas and maintained roadside vistas. A key component of the parkway road's design is its breathtaking scenic views of lands beyond its boundary. As the parkway road winds through hundreds of miles of Appalachian mountain landscape, the views continually change. Many of the scenes are of agriculture and farming, the Blue Ridge escarpment to valleys below, or serene waves of mountain ridges stretching to the horizon. The parkway faces threats to its viewshed from the following:

- Increasingly, people are locating their homes on steep slopes within view of the parkway.
- Recent surveys have shown that there is potential over the next 10 years for an additional 20,000 homes to be constructed within view of the parkway.
- Telecommunication companies may need 225 sites on or near the parkway within five years, creating a deleterious visual impact with cell phone towers.
- Large scale commercial and residential wind energy systems are being proposed on ridge tops within view of parkway overlooks and roadside vistas.
- Surrounding forests are mature and prime for pulpwood harvest.
- Vegetation is filling in areas that once were open.

Agricultural views are the fastest changing scenes in America and the most likely to be adversely affected by suburban and rural residential development. Since 1948, 75% of farmlands along the parkway have been converted to other uses. In North Carolina, 10,000 farm acres remain along the parkway, down from 48,000 in 1948. Almost all of the

agricultural views along the parkway are found in the Plateau, Highlands, and northern portion of the Black Mountain segments. Ever-increasing urban development also degrades the quality of natural and pastoral rural views in the Roanoke and Asheville segments.

Air pollution also has dramatic impact on scenic quality. The effect of air pollution is most visible in the Ridge and Pisgah segments.

Views from the Pisgah segment are less than 11 miles on average in the summer. Historic summertime views in this region are estimated to have been between 60 and 90 miles. Unfortunately, air pollution is mostly beyond the parkway's control. A regional and national focus on air pollution is needed to preserve these views from further degradation. The parkway can be proactive in educating the adjacent communities about ways that they can help alleviate this problem.

Vistas along the road have changed over time; this is to be expected at some level. It is well known that when the parkway was first envisioned, many areas that were adjacent to the road had been logged or otherwise effected by economic activities that had been taking place in the Appalachian region. In some sense, the creation of the parkway was devoted to a restoration of the pastoral and forest scenes as they were envisioned by parkway landscape architects and staff agronomists.

Addressing the changes in scenic quality requires that the parkway allocate scarce staff resources to view conservation, such as for monitoring view quality, reviewing and providing comments on proposed land use development, increased vegetation management, and purchasing conservation easements or land. Parkway managers currently manage an agricultural leasing program of over 500 leases, helping the parkway maintain its rural scenery. Continued efforts with community groups and



government officials in surrounding counties are critical to maintaining the scenic quality of the vistas as originally intended by the parkway's landscape architects. The Blue Ridge Parkway has remained an icon of stability and continuity, even as its surrounding environs have changed dramatically.

As demonstrated by the viewshed issue, many of the challenges facing the parkway are a result of external change, not only financial constraints. The future of the parkway would be determined by its ability to adapt to these changes. Armed with a motivated constituency, a dedicated staff, committed partners, and millions of repeat visitors, the parkway will continue to be a treasure in the national park system.

### **AUTHORITY FOR CONSERVING SCENERY**

The conservation of scenery is established in the NPS Organic Act and is reaffirmed by the General Authorities Act, as amended, *Management Policies 2006* (section 1.4.6 and 4.0) and more specifically articulated for the Blue Ridge Parkway in the parkway's enabling legislation (PL 848, June 30, 1936) and its legislative history. Scenery is considered to be a "core value" of the Blue Ridge Parkway based upon an analysis of the parkway's legislative history and by the definition of what a parkway is as a national park system unit.

On April 23, 1936, in a letter to the Chairman of the Committee on Public Lands in the House of Representatives, Secretary of the Interior Harold L. Ickes stated, "Standards for parkway right-of-way acquisition embodying necessary traffic, scenic and recreation features...and certain areas adjacent to the parkway present fine possibilities of scenic or recreational development for the benefit of the public..." On April 29, 1936, the House of Representatives Report No. 2544 stated, "The purpose of the Blue Ridge Parkway is to provide a connection scenic highway and adjacent roadside recreational area between

the Shenandoah National Park in Virginia, and the Great Smoky Mountains National Park in North Carolina and Tennessee."

Detailed discussion of the role of scenery as a determinant in the location and design of a parkway is contained in the *National Parkways Handbook* (NPS Release No. 1, June 1964). By NPS definition the Blue Ridge Parkway as a national rural parkway is a federally owned, elongated park featuring a road designed for pleasure travel and embracing scenic, recreational, and historic features of national significance. As a matter of design, scenic features and views were made available "... by aiming the main roadway at them for windshield views, by vista clearing for window views... Since much of the pleasure of riding along the parkway road is gained from the near and far [view]scapes, vistas must be planned and maintained..." (Handbook chapter 4, page 2). Design of the parkway followed this principle as 264 paved parking overlooks, some 860 maintained vistas, and over 400 agricultural lease views were developed and have been maintained since 1936. The opportunity for visitors to experience scenery is a primary objective for a national parkway.

Three of the four parkway purpose statements reference scenery and they are as follows:

- Connect Shenandoah and Great Smoky Mountains national parks by way of a "national rural parkway"—a destination and recreational motor road that passes through a variety of scenic ridge, mountainside, and pastoral farm landscapes.
- Conserve the scenery and preserve the natural and cultural resources of the parkway's designed and natural areas.
- Provide opportunities for high quality and recreational experiences along the parkway and within the corridor through which it passes.

The route of the Blue Ridge Parkway follows mountain and valley landscapes to link Shenandoah and Great Smoky Mountains national parks. Its location was selected to

provide the best in a variety of scenic, historic, and natural features that evoke the regional image of the central and southern Appalachian Mountains. To maximize scenic views and give visitors the impression that they are in a park with boundaries to the horizon, the parkway is in mountainous terrain that normal roads would have avoided.

One of the parkway's significance statements summarizes the importance of scenery:

The Blue Ridge Parkway was the first national rural parkway to be conceived, designed, and constructed for a leisurely driving experience. Its varied topography and numerous vista points offer easy public access to spectacular views of central and southern Appalachian rural landscapes and forested mountains.

### Scenery Conservation

The parkway has developed a Scenery Conservation System to provide direction for inventory, analysis, and protection planning for desired conditions. This system is designed to maintain or improve the scenic landscape character and level of scenic quality of landscape areas viewed from parkway overlooks, vistas, and agricultural openings. The system is an ongoing monitoring and implementation process. Scenic views and corridor landscape character contribute to the national significance of the parkway. Scenic resource management for the parkway is accomplished in a corridor context with the goal of conserving the scenic quality of view areas within and beyond the parkway boundary. The Scenery Conservation System is also used in the parkway's land protection program to identify and establish priorities for purchasing tract of land or conservation easements on land to protect scenic views with a scenic quality rating of moderate to high.

The parkway's Scenery Conservation System is used to assess potential proximity impacts, those changes to parkway view areas caused by land use change or development activities that are in close physical proximity to visitors

experiencing the park. Over 500,000 acres of the scenery that is visible within a mile to each side of the parkway road is not administered by the National Park Service. About 70% of this land is primarily in private ownership. Of visitors who were surveyed for the Scenic Experience Project (2002–2003), 95% stated that viewing scenery is a primary reason they visit the parkway. Given the design intent of the parkway and the visitors' stated primary purpose for driving the parkway road to view scenery, conservation of views is an important mission-based goal for NPS management.

Created in 2008, *The Blue Ridge Parkway Scenery Conservation System Guidebook* is used by park staff to inventory, analyze, and conserve scenic values of more than 1,200 scenic view areas seen from parkway parking overlooks and roadside vistas. Scenery conservation has evolved over the past 20 years from various research and landscape management projects.

Scenery conservation works with the idea of a "Borrowed Landscape." Maintaining scenery viewed from overlooks and along the parkway road involves working with 29 county governments, private landowners, developers, and other agencies. Because the scenery is borrowed from adjacent lands that are not administered by the National Park Service, the parkway's scenery system is not a direct control "management" system.

The parkway's scenery conservation program involves performing inventory that seeks to identify visual preferences and landscape character types, along with determining viewshed sensitivity while mapping view areas. Analysis is provided through an assessment of view area scenic quality. Identification of the desired future conservation objectives is key to protection planning. A monitoring and implementation program seeks to maintain desired conditions. The data gathered throughout this process provides information to planning staff and leads to rational decisions relative to scenery as a key part of the parkway's mission.

Parkway staff assess and maintain information on visitor visual preferences, landscape character, visual sensitivity, mapped views, visual impacts, digital landscape modeling, and scenic quality. Parkway staff also assess how visitors interact with the views along the parkway road.

### **Desired Future Conservation Objectives**

After view areas have been mapped in terms of location and extent and their current scenic quality has been determined, desired future landscape character conditions are developed. Desired future conditions establish long-range scenery conservation objectives for each view area. The conservation objectives assist staff with setting land protection and acquisition priorities, evaluating proposed changes to view area landscapes, and defining mitigations to minimize development impacts.

### **Monitoring and Implementation**

Parkway staff involved in monitoring and implementation of the scenery conservation program must pay attention to activities on

lands adjacent to the parkway boundary in order to identify changes that would alter the character and scenic quality of a view area. They consult with landowners and developers when asked to participate in their projects to provide site planning recommendations and impact mitigations; identify willing sellers and work to purchase fee simple and/or less than fee simple interests in lands. Lastly, staff work with county and other municipality staffs to provide review and comment on land use planning activities and development projects proposed within a view area.

When a change to a view area is proposed the potential impacts are assessed for impacts based on established indicators and criteria.

The parkway's scenic resource conservation system is used to assess potential proximal impacts. This includes changes to parkway view areas caused by land use change or development that are in close physical proximity to visitors experiencing the park. Proximal impacts considered in the evaluation of impacts potentially affecting the landscape character and scenic quality and the parkway's cumulative corridor scenic integrity are visual sensitivity and the scale and mass of change.

# VISITOR USE AND EXPERIENCE

## INTRODUCTION

This section describes aspects of visitor use and experience that may be affected by the management alternatives and zone prescriptions. Due to the wide variety of visitor use at the parkway, there is not a detailed discussion of all visitor use activities. Most discussion of visitor use related to visitor traffic is addressed under the “Traffic and Transportation” section. There is some potential overlap on related topics.

The following topics match the subtopics analyzed in “Chapter 4: Environmental Consequences.” Information about each topic corresponds to the type and level of impacts addressed in chapter 4.

- Visitor use levels and trends
- Visitor characteristics
- Recreational opportunities (such as scenic driving, bicycling; recreation areas, trail-based activities; camping, lodging and other concession services)
- Opportunities for orientation, interpretation, education
- Opportunities to experience natural soundscapes
- Visitor circulation and parking
- Visitor perceptions of crowding
- Visitor safety

Most of the information used in the initial analysis of visitor use for this plan was collected from the NPS Visitor Statistics Office, the *Visitor Survey Study Completion Report* (University of Vermont (UVM) 2002), and the *Transportation System Data Analysis* (David Evans and Associates, Inc. (DEA) 2004). Subsequent information was integrated from

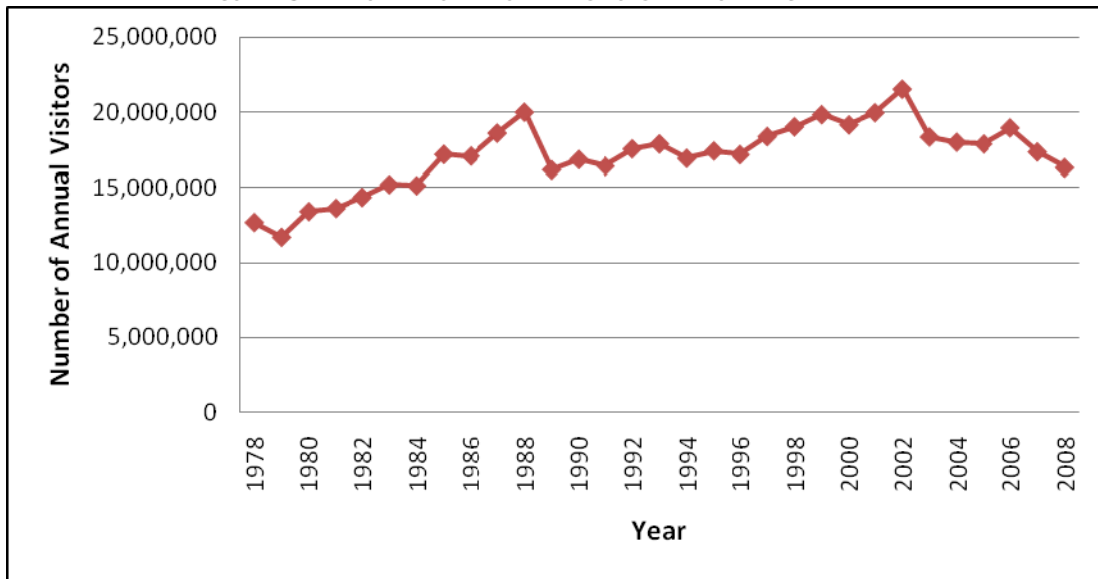
other sources, as appropriate, including the *Blue Ridge Parkway Visitor Study* (NPS Visitor Services Project, 2007/2008).

## VISITOR USE LEVELS AND TRENDS

The Blue Ridge Parkway is the most visited unit in the national park system. The parkway experienced a steady increase in visits from 16.1 million in 1989 to 21.5 million in 2002, an increase of 2.2% compounded annually. Since reaching an all-time high in 2002, visitation has dropped in the following years, with 2010 visitation of 14.5 million close to levels last seen in the early 1990s. This corresponds with an overall decline in visitation to national parks around the country. There is not a clear consensus as to the cause for the decline, but many suggest broader political, social, and economic events played a role in reduced tourism to many of these national attractions.

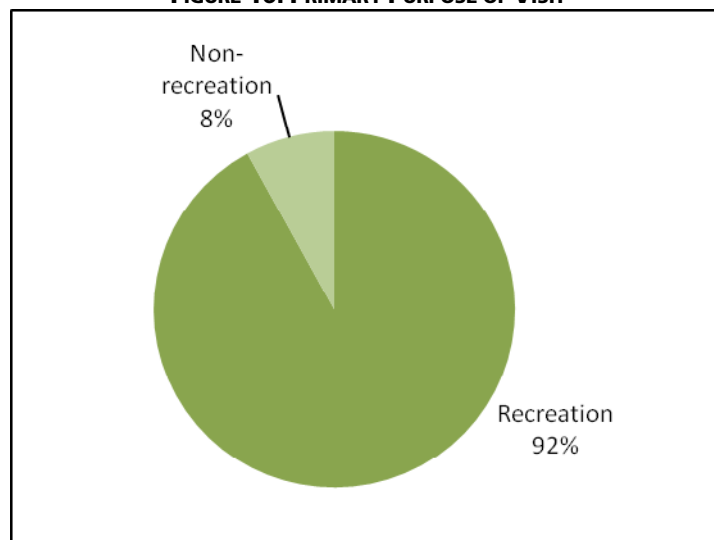
For the purpose of this document, a “visitor” is defined as anyone who visits the parkway for recreational use. It does not include those who use the parkway for nonrecreational purposes, such as commuting. Visitor use levels are estimated by the National Park Service using traffic volumes collected at permanent road counters along the parkway. The National Park Service then converts the number of vehicles to recreational visits using a standard vehicle occupancy value of 2.5 people per vehicle. Therefore, visitation levels and traffic volumes follow the same trends. See figure 15 for annual recreational visitation totals from each of the last 30 years. An estimate of nonrecreational trips is removed from the overall visitation to determine these levels (figure 16).

**FIGURE 15. ANNUAL RECREATIONAL VISITORS AT BLUE RIDGE PARKWAY**



Source: National Park Service, Public Use Statistics Office, 2009.

**FIGURE 16. PRIMARY PURPOSE OF VISIT**

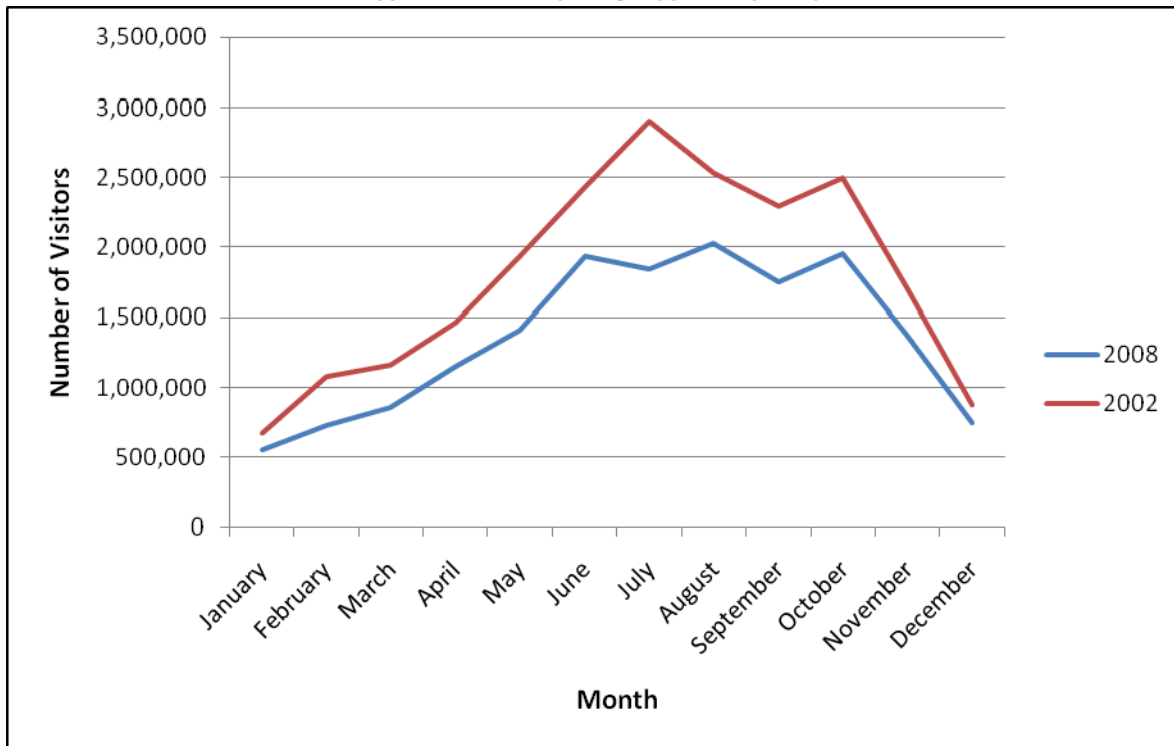


Source: UVM 2002.

The peak season for travel along the parkway is generally between May and October due to the summer vacation season and in October for viewing fall foliage. As shown in figure 17, there were some appreciable changes in the monthly visitation pattern between 2002 and 2008. While visitation totals during the winter were approximately equal, summer visitation decreased by almost 25%, perhaps due to the same factors previously described that caused a decline in park service wide visitation.

In the winter, recreational visitation declines substantially and the parkway is not maintained like a general highway system. With the occurrence of snow and ice, there are unscheduled road closures. These seasonal closures affect mostly the local nonrecreational user. Because the parkway is not meant to function as a regional transportation route, there are alternate routes available and the road closures are considered acceptable.

**FIGURE 17. VARIATION IN SEASONAL VISITATION**



Source: National Park Service, Public Use Statistics Office, 2009.

Based on the past 30-year trends in visitation shown in figure 15, it is likely that the parkway’s visitation will hold relatively steady during the next 25 years. However, it is possible that visitation may slightly increase in the coming years due to the influence of the surrounding region’s projected population growth (see figure 27 in the socioeconomic section).

**VISITOR CHARACTERISTICS**

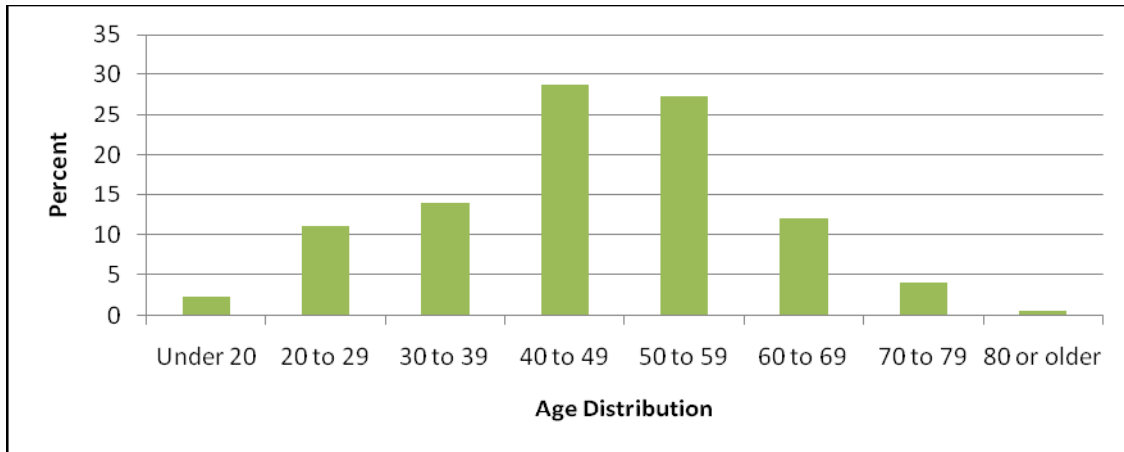
A survey conducted by the University of Vermont during the summer of 2002 (*Visitor Survey Study Completion Report*) sampled 11 locations along the parkway, including visitor centers and overlooks. These sampling locations included the following: Peaks of Otter, Rocky Knob, Cumberland Knob, Moses H. Cone, Julian Price, Linn Cove, Linville Falls, Folk Art Center, Graveyard Fields, Looking Glass Rock, and Waterrock

Knob. A total of 1,378 visitor groups were asked to participate and 991 questionnaires were completed. Although this survey only represents a snapshot in time, it does provide useful insights into the characteristics of those visiting the parkway.

**Group Size and Composition, Age Distribution, and the Origin of Visitors**

According to the 2002 survey, most visitors come to the parkway in small groups of two or three people, with an average group size of 2.5 people. Of these groups, the majority are families (69%) and friends (16%). Other types include church groups, youth groups, clubs, and commercial tours. Visitors reported an average age of 47 years old. See figure 18 for the age distribution of visitors based on the study.

**FIGURE 18. AGE DISTRIBUTION OF VISITORS**



Source: UVM 2002.

A large majority of visitors (97%) reported that they were from the United States. Of those, most were from North Carolina (35%), Florida (14%), and Virginia (10%). Most foreign visitors were from the United Kingdom (28%), Canada (14%), and Germany (10%).

eight times. The high number of repeat visits is unique for the parkway compared to other national park units. This may be due in part to the expansiveness of the parkway (which can require multiple trips to see all of it) and its use by local residents who frequent it for day use recreation.

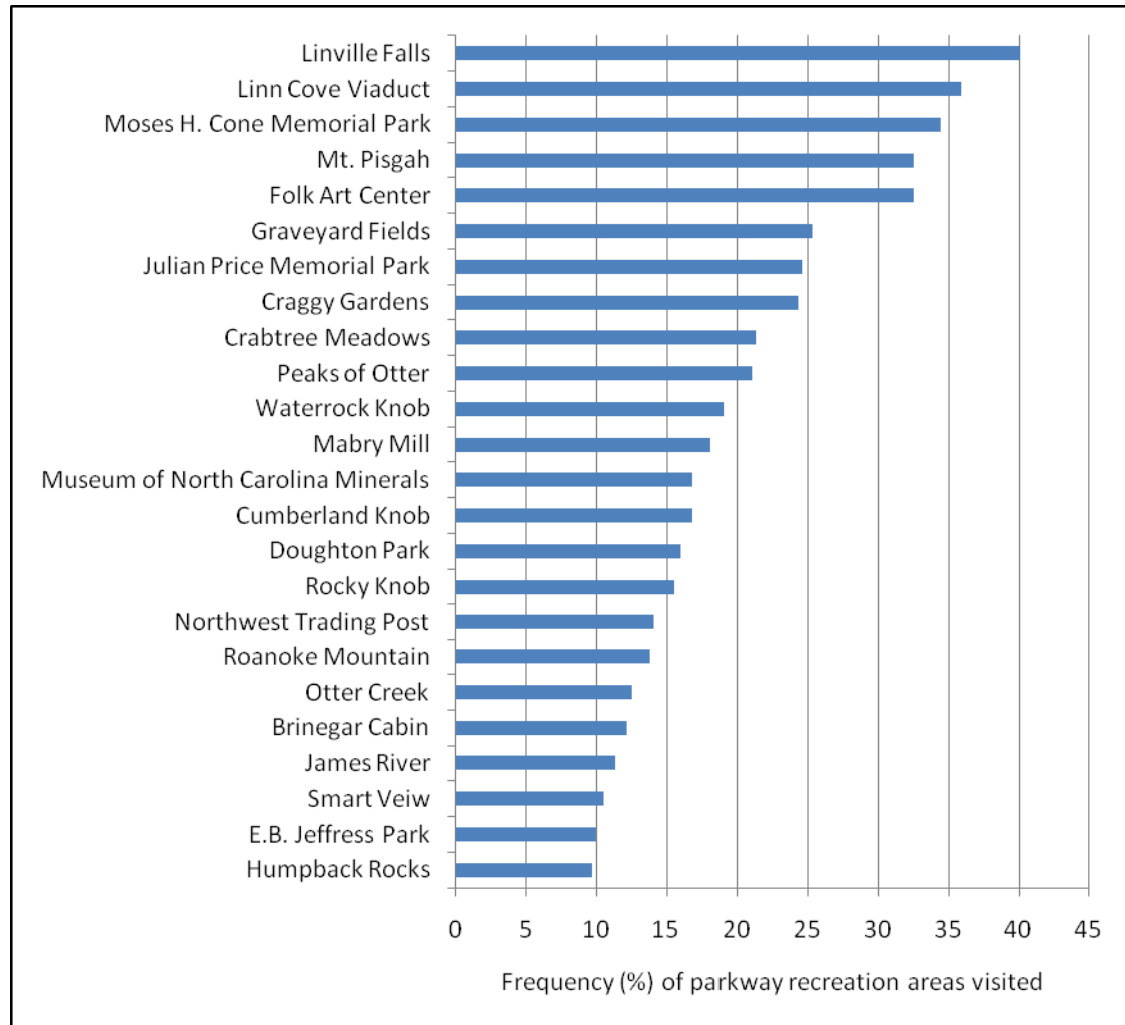
### **Length of Stay and Repeat Visitors**

According to the 2002 survey, visitors tend to stay on the parkway for one to three days with an average trip length of 2.1 days. Fewer than half of the respondents (48%) stayed only one day. Respondents were also asked to record the number of times they have previously visited the parkway. Visitors responded that they have visited an average of 21 times. The vast majority of repeat visitors said that they live in Virginia and North Carolina and that on average they have been to the parkway 38 times. Whereas, out-of-state visitors said that they have been to the parkway an average of

### **Frequency of Recreation Areas Visited**

Based on the Visitor Survey Study (UV 2002), the five most frequently reported places visited along the parkway were Linville Falls (40% of respondents said they visited or planned to visit this area), Linn Cove Viaduct (36%), Moses H. Cone (34%), Folk Art Center (33%), and Mt. Pisgah (33%). Figure 19 shows the frequency of these and other parkway recreation areas visited, based on visitor responses.

**FIGURE 19. FREQUENCY (%) OF PARKWAY RECREATION AREAS VISITED**



Source: UVM 2002.

### Vehicle Types

Although recreational trips comprise the majority of parkway use, nonrecreational trips comprise a substantial amount of traffic traveling the parkway, especially between Interstate 77 and Roanoke (49% of trips are nonrecreational in the Roanoke and Plateau segments). Nearby residents use the parkway for local access and this commuter traffic adds pressure to parkway use (DEA 2004). Park staff note that some commuters prefer to use the parkway as a “nice” drive to work and landowners in proximity to the parkway want to maintain local traffic access. High levels of nonrecreational use of the parkway can affect visitor experience. Recreational visitors feel

some areas are too congested due to local traffic and resent congestion where local road connections are used. However, some visitors enjoy the ability to frequently exit the parkway for services. Many visitors acknowledge the need for more parkway infrastructure, but do not want to alter the parkway’s natural features or rural feeling (NPS 2008b).

As described in the “Transportation” section, no commercial truck traffic is allowed on the parkway, and no transit services are provided. In keeping with its designation as a scenic parkway and emphasis on the driving experience, the vast majority of vehicles are passenger vehicles (79%), followed by



motorcycles (12%), which constitute a much higher percentage than the general motorcycle population. Park staff has noted a substantial increase in motorcycle use of the parkway. Other motorists tend to dislike the number of motorcycles and the noise they emit. Complaints about speeding (the parkway’s speed limit is 35 to 45 mph), illegally altered exhausts, and dangerous behavior related to motorcyclists have become very common and can affect the visitor experience. As noted in the “Transportation” section, many parkway accidents involve motorcycles, particularly in the southern section where the roadway geometry is more varied and includes descending radius curves.

**Travel Patterns**

Due to the length of the parkway, the number of access points, and the very large region that is within a day’s drive, the combination of possible travel patterns is immense. However,

some of the typical foci of traffic is via the interstates and major urban areas. This is reflected in traffic data and visitor survey information. For more information about the road systems used by visitors to access the park, refer to the Traffic and Transportation discussion.

The 2007/2008 NPS visitor survey asked visitors how often their group entered the parkway during their visit. In the summer, 40% entered only once, and 45% entered two to four times. In the fall, visitors had similar responses, with 45% entering once, and 43% entering two to four times.

Visitors were asked where they first entered the parkway and where they last exited (see table 27). The most frequently mentioned locations are listed below, with the parkway’s north and south entrances, Roanoke, Fancy Gap (I-77), Boone/Blowing Rock, and Asheville, being the most frequent locations.

**TABLE 27. MOST FREQUENT FIRST ENTRY AND LAST EXIT LOCATIONS  
(NUMBER OF SURVEY RESPONSES)**

Location	First Entry		Last Exit	
	Summer	Fall	Summer	Fall
Virginia				
Milepost 0	67	80	53	61
Shenandoah National Park/Skyline Drive	36	62	36	22
Bedford/Buchanan/Peaks of Otter	32	23	32	26
James River/Otter Creek/Lynchburg/Big Island	18	15	14	10
Roanoke/Vinton	27	57	no data	53
Christiansburg/Floyd	11	28	16	30
Meadows of Dan/Mabry Mill	24	22	20	19
Fancy Gap/Hillsville	49	44	33	35
State Route 18/89 Virginia (VA) / North Carolina (NC) Line	7	15	7	7
North Carolina	Summer	Fall	Summer	Fall
NC 21/Roaring Gap/Sparta	6	15	44	13
U.S. 221	no data	no data	no data	427
Boone/Blowing Rock	84	133	73	145
NC 181/Pineola/Linville Falls/Linville	23	34	20	40
Little Switzerland	3	12	4	23
NC 226/Gillespie Gap/Spruce Pine	11	19	15	14
Asheville	146	285	137	245
Milepost 469/Cherokee	57	41	50	49
Balsam Gap/Waynesville/Sylva	26	40	25	32
Great Smoky Mountain National Park	26	22	18	37
NC 19/Maggie Valley	19	12	13	11

Source: NPS Visitor Survey, 2007/2008.

The following table lists the most common trips reported in the 2002 roadside survey.

**TABLE 28. TRAVEL PATTERNS—MOST COMMON TRIPS**

Trip Description	Miles
Round Trip from U.S. 52 (Fancy Gap/I-77)	50
Round Trip from U.S. 70 (North Asheville)	140
Round Trip from NC 191 (South Asheville)	44
Between Skyline Drive and Cherokee	469
Between U.S. 52 and U.S. 58 (Fancy Gap/I-77 and Meadows of Dan)	25

Source: Transportation Data Collection for the Blue Ridge Parkway, DEA, 2002.

### RECREATIONAL ACTIVITIES

The original design intent of the parkway is to provide a full service destination park that accommodates all visitors’ needs, including scenic driving, recreational activities, food services, overnight facilities, and educational and interpretive opportunities. To that end, 20 visitor-service areas have been constructed along the length of the parkway. The parkway has over 800 picnic sites, more than 1,000 campsites, 275 overlooks, 900 managed scenic vistas, 200 miles of trails, three lodges, 12 restaurants, 14 shops, and several visitor information facilities. The parkway offers a variety of other major attractions, including the Blue Ridge Music Center, the Folk Art Center, the Museum of North Carolina Minerals, and the Northwest Trading Post. As a result of these abundant services, as well as diverse natural and cultural resources, the

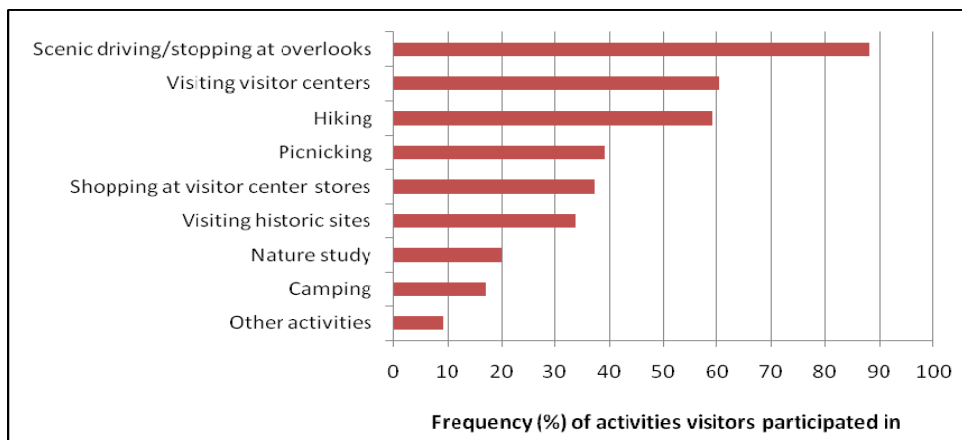
parkway offers a wide range of visitor opportunities and experiences. Figure 20 illustrates how frequently visitors participated in parkway recreational activities (UV 2002).

The percentages in figure 20 total more than 100%, because visitors who responded to the survey engaged in multiple activities during their visit to the parkway. The “other activities” shown in figure 20 includes many different activities. The most popular responses include: bicycling (16%), photography (14%), swimming (10%), visiting the Folk Art Center (7%), fishing (5%), and family time (3%) (UV 2002).

### The Scenic Driving Experience

The provision of a scenic driving experience was the primary goal of the original parkway design. The character of the final driving route varies due to the different characteristics of the land through which the parkway was located. Depending upon where visitors access the parkway, their scenic driving experience is primarily influenced by five factors: (1) landscape position of the parkway road, (2) vegetation along the roadway, (3) land use seen from overlooks and vistas, (4) air quality, and (5) the weather. The following are descriptions of the major characteristics of the scenic driving experience in each of the parkway segments.

**FIGURE 20. FREQUENCY (%) OF VISITOR PARTICIPATION IN ACTIVITIES**



Source: UVM 2002.

**Segment 1—Ridge, Mileposts 0–106.**

Segment 1 begins where Shenandoah National Park's Skyline Drive ends at Rockfish Gap. Driving the Ridge segment's 106 miles is mostly a forested experience where for 90% of the drive the parkway traverses the Jefferson and Washington National Forests. There are memorable scenic breaks where adjacent privately owned undeveloped land is visible. The parkway road ascends and descends the mountainside slopes climbing toward the ridgetop. The road travels from one side of the mountains to the other through gaps and from the maintained vistas and overlooks, views to the east and west present dramatic panoramic valley scenery. This segment has the only tunnel in Virginia where the parkway road passes through Bluff Mountain (milepost 53). The next parkway tunnel doesn't occur until the Black Mountain segment in North Carolina. Short distances of the road follow the crest of the Blue Ridge where the mountainside falls off just beyond the shoulder on both sides. The Ridge segment is the only part of the parkway where visitors have this notable experience. Midway, the Ridge segment drops down to follow Otter Creek, where views are constricted by a narrow enclosed valley. From there the parkway then reaches its lowest elevation (649.4 ft) as it crosses the expansive open James River Valley. The experience of scenery in this segment is one of great contrasts between the bird's eye panoramas seen from ridge tops and mountain sides to the enclosed views in the forest surrounding Otter Creek. For much of the drive through this segment the visitor is not a part of the scenery they experience but rather a distant observer of valleys below. Traveling further south the parkway road climbs up to the Peaks of Otter and then back down to milepost 106 where visitors enter the Roanoke segment.

**Segment 2—Roanoke, Mileposts 106–134.** The Roanoke segment serves as a transition between the forested mountainside and ridgetop driving experience of the Ridge segment to the rolling plateau farmland landscape of the Plateau segment. Today's experience of the Roanoke segment is one where the visitor sees a rural landscape being

consumed by spreading commercial and residential development by the largest urban population next to the parkway. Picturesque masonry arch bridges that carry local roads over and under the parkway road are a remarkable feature along the parkway in the Roanoke Valley. Higher speed nonvisitor traffic surges in the morning and early evening and day long local traffic diminishes the visitor's ability to move leisurely through the valley at the posted speed limit while taking in the remaining scenic views.

**Segment 3—Plateau, Mileposts 136–217.**

The whole character of the landscape through which the parkway passes in the Plateau segment contrasts dramatically with the Ridge segment's forested mountain experience and Roanoke segment's transition to a growing suburban landscape. In the Plateau the parkway road glides in a series of straight lines and slight curves across the gently rolling landscape and in some places it skirts the rim of a gorge or the plateau where visitors look into the nearby or distant valley floors. Visitor's become visually immersed in the Plateau segment's agricultural landscape and patches of forest. It is this segment of the parkway that early designers called "a museum of the American countryside." Visitors to this segment may feel they are more a part of the parkway's living landscape here than in any of the other segments. The rural farm scenes of pastures with cattle and fields planted with crops are brought up to the edge of the road. Numerous state and private roads connect at-grade with the parkway road throughout this segment, so through travelers have to be ever aware of local travel leaving, entering and crossing the parkway road.

**Segment 4—Highlands, Mileposts 217–305.**

The Highlands segment begins where the parkway crosses the state line. Characterizing the scenic driving experience in this segment is difficult because the parkway traverses a greater mix of valleys, mountain sides, ridge tops, and the highland plateau landscapes than other segments and views continuously alternate from panoramic distant views to nearby views of farms and structures. Initially, the segment is a

continuation of the rural farm scene but then rises gradually to a mountain side, providing panoramic views to the east and then to the west as the parkway road moves through high gaps. A most notable feature of this segment is the first 34 miles of parkway which are lined by some 32,000 linear feet of picturesque dry stacked rock walls. The open highland landscape of Doughton Park with its numerous wooden fences ends with the parkway road traversing a landscape having distant and close views and with an alternating pattern of woodlands and fields. The landscape then becomes more rolling and open as visitors approach the Boone/Blowing Rock area. From this third largest urban area along the parkway, visitors drive around Grandfather Mountain where distant panoramic views to the east are open almost continuously for some 5 miles. The sinuous Linn Cove viaduct clinging to the side of the mountain is a feature that visitors marvel at, both in viewing it and driving on it. The Highlands segment ends at the Beacon Heights overlook.

**Segment 5—Black Mountain, Mileposts 305–377.** Leaving Beacon Heights, visitors glimpse the rural landscape through breaks in the roadside forest edges as well as some distant panoramic views. Leaving the rural landscape behind at Spruce Pine, visitors experience a scenic drive through a mountain forest, climbing towards the ridgetop, descending along the mountain side and passing through gaps with panoramic views of the valleys below. Much of the adjacent land use along this entire segment is in the Pisgah National Forest, which protects the quality of the numerous forested mountain views. The broad central dome of the Black Mountains includes the highest mountain east of the Mississippi River, Mount Mitchell. The high-elevation spruce/fir forest community found in most of the last 40 miles of the segment defines the visitor's scenic experience where the dark green evergreens are spread along the roadside and tree groupings that frame the distant views. Dramatic views of the Asheville city watershed reservoir dominate the view from several vantage points before the

segment drops in elevation transitioning into the Asheville segment.

**Segment 6—Asheville, Mileposts 377–394.** While the Asheville segment is similar to the Roanoke segment in that it also serves as a more urban transition between segments, it presents a far different scenic experience compared to the Roanoke segment. This is not a segment of parkway known for its scenic value or visual variety of flowering plants. The only overlooks or roadside vistas occur in the first and last miles of the segment. Along the segment's remaining length, adjacent urban development is screened by a continuous forest edge broken only where major highways cross under the parkway road. Maintained roadside grass bays that are intended to keep the forest edge away from the roadside now serve as areas for people to park their cars while they ride bicycles on the parkway road or while they hike parkway trails. Asheville is the second largest urban area through which the parkway passes. Like Roanoke, Asheville's sizeable population results in considerable nonvisitor traffic during rush hour and day-long local traffic driving at higher than posted speeds which diminishes the visitor's ability to comfortably move through the valley at a leisurely pace.

**Segment 7—Pisgah, Mileposts 394–469.** This last segment ends the parkway scenic driving experience much like it started. The parkway road rises and descends mountain side slopes, climbing toward a ridgetop. Traveling from one side of the mountains to the other through gaps, visitors experience unspoiled natural scenery from maintained vistas and overlooks. Views both to the east and west present dramatic panoramic views of multiple forested mountain ridges and distant valley scenery. Much of the parkway again is bordered by large tracts of forest land administered by the Pisgah National Forest. Seventeen of the parkway's 26 tunnels occur in this segment. Their measured stone masonry portals become a dominant visual feature of this segment's scenic driving experience. Like the Black Mountain segment, the high-elevation spruce/fir forest community is traversed by the parkway road

for some 40 miles. The dark green evergreens define the scenic experience with trees that are spread along the roadside and tree groupings that frame distant views. Looking Glass Rock, an imposing granite landmark, dominates the view from several overlooks and vistas. The last 20 miles of this segment pass through ancestral lands owned by the Eastern Band of Cherokee Indians. Finally, the route ends at Great Smoky Mountains National Park.

### **Bicycling on the Parkway**

In addition to motor vehicles, bicycles are permitted along the entire length of the parkway. Although cyclists represent only 1% of the road's traffic mix, the parkway is popular with cyclists due to its limited access and relatively lower traffic levels (outside of commuter zones) and vehicle speeds when compared to most community streets and highways (DEA 2002). The parkway was not designed as a bicycle facility and has no specific paved shoulders or specific bike lanes or paths; cyclists currently ride in the road's travel lanes. The parkway is most often used by cyclists for day rides, although some ride the entire length of the parkway and camp along the way (DEA 2005).

Although the parkway keeps no formal data on the number and type of cyclists using the parkway, the distance between services and changing weather conditions may draw more day use cyclists as opposed to through-riders. However, several organizations lead guided bicycle tours of the parkway and web sites, books, and maps are available to help cyclists plan through-trips. Designated camping locations are not spaced closely enough to accommodate long-distance cyclists traveling the highway, resulting in camping in undesignated locations (DEA 2005).

Park staff are seeing more bicycle tour groups, as well as through-riders, along the parkway. Many local bicycle shops in the major communities along the parkway advertise its merits and host bicycle tour groups that use the parkway, often by special use permit. Such

groups are typically limited in size to 25 cyclists (DEA 2005).

Four areas of the parkway experience steady levels of bicycle use. These areas are typically 10 to 15 miles in length and are around major population centers (DEA 2005). They include (from north to south) the areas around Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville.

In Waynesboro, in the extreme northern end of the parkway, the section most commonly used by cyclists is from milepost 0 to the intersection with VA 664 at milepost 13.7. Cyclists regularly use the parkway and VA 664 as a loop to and from the Waynesboro area (DEA 2005).

Roanoke is the largest urban area near the parkway and a great deal of commuter traffic occurs between U.S. 460 and U.S. 220, which is also a popular bicycle route. Several bicycle groups use this area. One weekly ride, consisting of as many as 50 bicyclists, travels the parkway between the intersection with U.S. 460/221 (milepost 105.8) and U.S. 220 (milepost 121.4). This is the most heavily used section of the parkway by cyclists in the Roanoke area. Park staff has observed that bicycle usage is increasing in the Roanoke Valley (DEA 2005).

The section of the parkway near Boone/Blowing Rock is also heavily used by cyclists and there are several bicycle advocacy groups in the area. One group supports a weekly ride on the parkway from Aho Road (milepost 288.1) to Greenhill Road (milepost 290.2). Individual cyclists commonly ride a loop from U.S. 321 (milepost 291.8) over the Linn Cove Viaduct (milepost 304.0), through the Grandfather Mountain area, and exit the parkway at U.S. 221 (milepost 305.1). This area also hosts an annual century ride from the parkway at U.S. 421 (milepost 276.4) to U.S. 321 (milepost 291.8) (DEA 2005).

Asheville is a relatively large urban area adjacent to the parkway and several bicycle groups are in this region. Some bicycle groups use the section of the parkway between U.S.

25 (milepost 388.8) and NC 191 (milepost 393.6) for a weekly ride. Bicyclists also typically ride between U.S. 70 (milepost 382.5) and NC 191 and serious cyclists may ride as far north as the Craggy Gardens Visitor Center (milepost 364.5) and as far south as Mt. Pisgah Inn (milepost 408.6) (DEA 2005).

Safety is of paramount concern to many cyclists, particularly in the more congested areas of Roanoke and Asheville (NPS 2008b). The nature of the parkway can make it difficult for motorists to see cyclists, especially in foggy weather (DEA 2005). Many motorists are concerned about hitting cyclists and cyclists are concerned about being hit by motorists (NPS 2008b). Cyclists are especially concerned about the intermixing of cars and bicycles on the narrow travel lanes of the parkway and about cars exceeding the 35 to 45 mph speed limit. Cyclists want more law enforcement of traffic speeds (DEA 2005). Many motorists feel that bicyclists cause congestion (NPS 2008b). Cyclists feel that many drivers who are unfamiliar with the parkway's curves may be afraid of passing a cyclist, creating a traffic backup (DEA 2005). Cyclists also create dangerous conditions when they do not ride single file in the parkway's travel lanes.

Conflicts between cyclists and motorists have escalated. According to park staff, a cyclist was shot with a pellet gun by a passing motorist at Quarry Overlook (in the Ridge segment) and at Montebello (off the parkway along VA 56 near Whetstone Ridge also in the Ridge segment). A group of cyclists also attacked a motorist who was pulled over at an overlook whom the cyclists had encountered on the parkway earlier.

Local planning departments, such as those of the city of Roanoke and Watauga County, encourage use of multiuse trails for cyclists while preserving the scenic aspects of the parkway and many motorists are in favor of multiuse paths to separate use. However, other users do not want to share a path with faster moving bicycles and cyclists may not

wish to use paths that are being used by pedestrians or other users. There is broad public support in creating more nonmotorized pathways, but not for sharing the pathways with other types of users. Although many visitors would like to improve the quantity and variety of recreational experiences along the parkway, visitors are concerned about retaining the current rural, meandering design of the parkway and have expressed concern over adding more paved surfaces or widening the road (NPS 2008b).

### **Recreation Areas—"The Pearls"**

An integral part of the designed parkway experience was the development of several major recreational areas, as well as smaller sites such as picnic areas, at periodic stops along the scenic drive. These areas, many of which are hundreds of acres in size, are often referred to as the "pearls on a string." In general, the parkway recognizes 21 places along the parkway that are either part of the original set of planned recreation areas, or are attractions that have been developed in more recent years for visitor information, education, and enjoyment. As shown in chapter 2, there are 15 of these recreation areas that have a range of actions proposed that are specific to them and are discussed in more detail in this document. One of these six areas is the Moses H. Cone Memorial Park, which is under a separate planning effort. For the other five areas—Whetstone Ridge, E.B. Jeffress Park, Museum of North Carolina Minerals, Folk Art Center, and the Blue Ridge Parkway Visitor Center, this plan's proposals and zoning do not vary by alternative and these areas can be analyzed at the segment or parkwide level.

The 15 primary recreation areas addressed in this plan are briefly summarized in table 29. The six recreation areas not specifically addressed in this plan are briefly described in table 30. More details are provided in chapter 2.

**TABLE 29. RECREATION AREAS**

Recreation Area	Segment	General Description
Humpback Rocks	Ridge (mileposts 6–10)	First major recreation area when entering parkway at northernmost entrance. Mostly forested with several trails, the recreation area consists of the geologic feature of Humpback Rocks, the visitor contact station, hiking trails, and the mountain farm exhibit.
James River / Otter Creek	Ridge (mileposts 60–65)	Offers hiking, camping, picnicking, seasonal concessions, fishing, and interpretation of the James River, Kanawha Canal, and the restored canal lock. Seasonally open visitor contact station provided close to the river and canal resources.
Peaks of Otter	Ridge (mileposts 82–91)	Mostly hardwood forest. Abbott Lake is focal point. There is a nature center and the nearby Johnson Farm. Several concessions, recreation, and educational opportunities; visitor contact station provided.
Roanoke Mountain	Roanoke (mileposts 118–122)	Popular one-way driving circuit with dramatic overlooks. Picnicking, camping, and trails for hiking and horseback riding provided. Spur road connects to nearby Roanoke attractions.
Smart View	Plateau (milepost 155)	Variety of day use recreational activities provided (trails, group picnic shelters, restrooms).
Rocky Knob	Plateau (mileposts 166–174)	Rugged, forested terrain with many overlooks and vistas. Rockcastle Gorge is an important scenic focal point. Includes extensive trail system and cabin camping opportunities.
Mabry Mill	Plateau (milepost 176)	Most picturesque and popular cultural site. Includes several outdoor exhibits, cultural demonstrations, and concession-operated restaurant. Popular and traditional destination for many visitors, especially on weekends.
Blue Ridge Music Center	Plateau (milepost 213)	Meadow and forest landscape with popular music center that is major stop along Virginia’s Heritage Music Trail. Will likely experience considerable growth in visitation.
Cumberland Knob	Highlands (mileposts 217–219)	Day use area with forested mountainsides, popular picnic area, and hiking trails. Visitor contact station closed in 2005.
Doughton Park	Highlands (mileposts 236–247)	Fairly isolated with very rugged backcountry. No visitor contact station but several concession services provided. Large campground, popular picnic area, and over 30 miles of backcountry trails.
Julian Price Memorial Park	Highlands (mileposts 295–300)	Popular recreation area with forested highlands and mountain streams. Several recreational opportunities provided, including boat rental. One of the most heavily used campgrounds.
Linville Falls	Black Mountain segment (mileposts 315–319)	Very popular, highly used recreation area with heavily used trail to waterfalls. Visitor contact station and several recreational opportunities provided.
Crabtree Falls	Black Mountain segment (mileposts 339–340)	A variety of recreational activities provided, such as camping, hiking, and picnicking. There are concession services including a camp store, gift shop, and snack bar. Many acres of meadows, adjoining forest, and spectacular waterfalls.
Craggy Gardens	Black Mountain segment (mileposts 364–369)	Features heath and grassy bald habitat and high-altitude bog. Visitor contact station and trails, picnic area, and restrooms provided.
Mt. Pisgah	Pisgah (mileposts 407–409)	Scenic, high-elevation site with variety of recreational and educational opportunities. Several concession-operated facilities provided.

**TABLE 30. RECREATION AREAS NOT ADDRESSED**

Recreation Area	Segment	General Description	Reason
Whetstone Ridge	Ridge (milepost 29)	Previously a visitor site with food service. Converted to a park operations facility.	Functions as a park maintenance facility. Previous coffee shop concession was not economically viable.
E.B. Jeffress Park	Highlands (milepost 271)	Picnicking site.	No changes proposed.
Moses H. Cone Memorial Park	Highlands (milepost 294 )	Visitor and craft centers, picnic area, camping, the Grandfather Mountain corridor, and associated rare habitats. Stories include America's country estate movement and donation of large parcels of land by wealthy individuals.	Due to specific recreation management issues, Moses H. Cone is covered under a separate planning effort. The craft center is operated by a concessioner.
Museum of North Carolina Minerals	Black Mountain segment (milepost 330)	Visitor center and educational museum highlighting the geology of the region and the rich mining heritage of the area.	Operated in partnership with the McDowell County Chamber of Commerce. No changes proposed.
Folk Art Center	Asheville (milepost 380)	Visitor information, Eastern National sales outlet, and presentation and sales of arts and crafts.	Operated by a concessioner.
Blue Ridge Parkway Visitor Center	Asheville (milepost 382)	Visitor information, interpretation and education services, Eastern National sales outlet.	Operated in partnership with the Blue Ridge National Heritage Area.

Primary visitor opportunities at several of the recreation areas include picnicking, hiking, camping, concessioner food and lodging, visitor information, and law enforcement-led walks and talks. Most concessions services are provided from spring to fall, with a few open year-round.

Many visitor opportunities are available outside the recreation areas. For example, trails originate from many overlooks and include short "leg-stretchers" requiring 10 minutes round-trip, as well as others that take 30 minutes to an hour. Several picnic grounds are also available along the parkway. More details about these activities are provided later in this section.

### Trail-based Recreation

Trail-based recreation is an important component of the parkway's purpose to provide high-quality recreational experience for visitors. Although the majority of visitors

travel the parkway for the leisure driving experience, more and more people are seeking opportunities that take them beyond the roadway. These trail-based activities primarily include hiking, horseback riding, and backcountry camping, as well as wildlife viewing and nature study. According to the 2002 Visitor Survey Study, 59% of visitors surveyed said they participate in hiking. When considering the millions of people who annually visit the parkway, this is a considerable number of people who use the area's extensive network of trails.

All 15 major recreation areas along the parkway provide trail-based recreational opportunities for visitors. These vary from short "leg-stretcher" paths in or near visitor-service areas to long-distance backcountry trails, some of which also offer primitive backcountry camping opportunities. In particular, Humpback Rocks, Peaks of Otter, Rocky Knob, Doughton Park, and Moses H. Cone and Julian Price memorial parks offer extensive trail networks. There are 115



separate trail systems along the parkway, totaling over 200 miles.

The parkway also overlaps with portions of national and regional trails systems. It runs parallel to the Appalachian Trail for 100 miles, with numerous access points, and it includes approximately 300 miles of the Mountains-to-Sea Trail. Trail connections are also provided to other trail systems on adjacent U.S. Forest Service lands and urban trail systems in Roanoke and Asheville. Certain designated trails and fire roads in the parkway also allow for horseback riding. Mountain biking is currently prohibited on all trails, although there is a high demand for this activity. The parkway is working in partnership with Roanoke County and the City of Roanoke on the Roanoke Valley Trail Plan. The plan identifies safe and appropriate access for trail connections, closure of unsafe or inappropriate trail connections, providing parking and staging for trail use on the parkway, and examines the potential for mountain biking on existing or newly constructed trails on land leased by the federal government in the Roanoke Valley corridor.

The parkway is also partnering with Buncombe County, the U.S. Forest Service, and the City of Asheville to complete a greenway master plan for Buncombe County, North Carolina. The plan would inform management actions within the Asheville corridor of the parkway, from mileposts 375 to 395. This plan would look at safe and appropriate trail access to the parkway, identify parking for access to trails on and off the parkway, identify trails to be closed for safety and habitat concerns, and look at recreational needs within the parkway corridor to determine if new uses/trails may be appropriate.

**Camping, Lodging, Concessions**

The parkway’s campgrounds and lodges are in recreation areas in Virginia and North Carolina. The campgrounds are operated by the parkway, and the lodges are operated through commercial services contracts. Many

of these facilities are underused. One of the primary reasons visitors give for not using some of these facilities is the lack of modern amenities. As a result, many visitors turn to lodging options outside of the parkway in nearby communities. Based on the 2002 visitor study, 66% of visitors stayed overnight outside the boundaries of the parkway in hotels, motels, inns, bed and breakfasts, other campgrounds, or at the homes of friends and relatives. When the parkway was established, its campgrounds and lodges were often the only accommodations for many miles around. But with population growth and development have come more choices for the public. As a result, the parkway serves less as a self-contained multiday scenic drive than was originally envisioned.

**Campgrounds.** There are nine parkway campgrounds. These campgrounds provide a total of 712 tent and 345 RV sites. Table 31 shows the number of tent and RV sites for each parkway campground. All campgrounds are open seasonally, May through October.

**TABLE 31. TENT AND RV SITES PER PARKWAY CAMPGROUND**

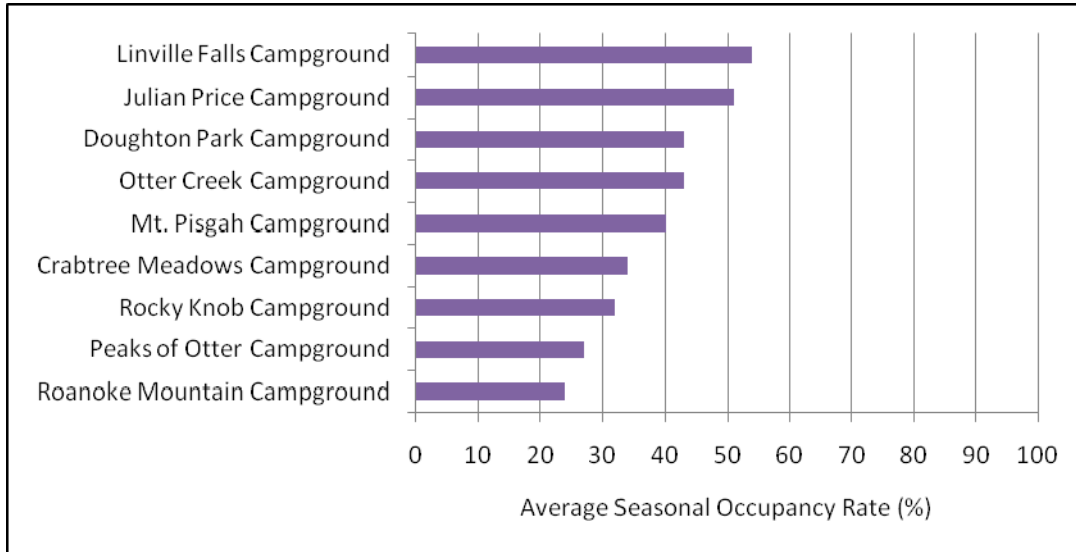
Parkway Campgrounds	Number of Tent Sites	Number of RV Sites
Linville Falls	50	20
Julian Price	129	68
Otter Creek	45	24
Doughton Park	110	25
Mt. Pisgah	70	70
Crabtree Falls	71	21
Rocky Knob	81	28
Peaks of Otter	82	59
Roanoke Mountain	74	30

The campgrounds have not had significant upgrades since their construction between the 1930s and 1950s. None have water, electric hook-ups at RV sites, or showers in the comfort stations. Furthermore, loop roads, parking areas, and campsites were designed to earlier standards that do not adequately accommodate modern RVs. The absence of modern amenities is the primary reason most visitors do not stay at the parkway’s campgrounds. During the 2009 visitor season,

campground use totaled 95,612. A total of 57,910 used tent sites, and 37,702 used RV sites. Although these numbers are impressive, seasonal occupancy rarely exceeds 50%. Figure 21 shows the average seasonal

occupancy rate for each campground from May to October 2009.

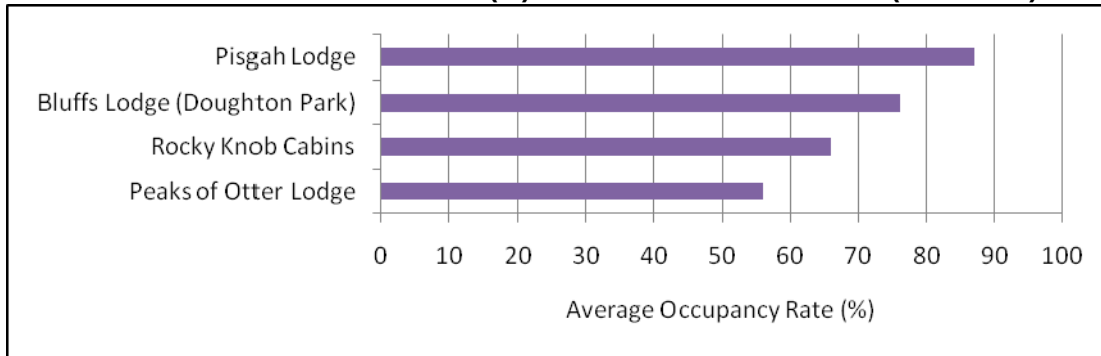
**FIGURE 21. AVERAGE SEASONAL OCCUPANCY RATE (%) OF PARKWAY CAMPGROUNDS (2004) UPDATE FOR 2009**



**TABLE 32. CONCESSION-OPERATED VISITOR SERVICES**

Recreation Area	Lodging	Other Services
Otter Creek	N/A	The 60-seat restaurant and gift shop closed in 2011.
Peaks of Otter	63 guestrooms	Within the lodge—150-seat restaurant, a country store, a gift shop, lounge, meeting rooms, and public use space; Sharp Top Mountain bus tours.
Rocky Knob	7 rustic cabin rentals	N/A
Mabry Mill	N/A	58-seat restaurant and gift shop; interpretive demonstrations.
Doughton Park	Bluffs Lodge closed in 2011	The Bluffs, restaurant, and gift shop closed in 2011.
Moses H. Cone	N/A	Handicrafts shop and demonstrations of the Southern Appalachian Mountains.
Julian Price	N/A	Canoe and rowboat rentals, snacks, and firewood.
Crabtree Falls	N/A	Eastern National outlet in 2011.
Northwest Trading Post	N/A	Outlet for locally made crafts and food products.
Folk Art Center	N/A	Craft shop, galleries, exhibitions, library, and auditorium that showcases traditional and contemporary crafts of the Southern Appalachians.
Mt. Pisgah	50 guestrooms, 1 suite	130-seat restaurant, gift store, and camp store.

**FIGURE 22. AVERAGE OCCUPANCY RATE (%) OF PARKWAY LODGES AND CABINS (2006–2008)**



**Lodging and Other Concession**

**Services.** The parkway contracts with a number of concessioners to operate restaurants, shops, lodges, cabin rentals, and other types of visitor services. Since the parkway’s inception, concessioners have played an important role in providing these services, which allow visitors to obtain key services while staying immersed in the parkway experience. Table 32 provides an overview of the concession-operated visitor services (NPS 2004). The concessions are open seasonally, spring through fall. Refer to the park operations and socioeconomic sections for more detailed information about concessioners. Like the parkway’s campgrounds, the lodges and cabins are also often underused. This is likely because these facilities were constructed in the 1960s and most of them have received very little updating. As a result, they lack many of the modern amenities that most overnight guests prefer. Of the four lodging options along the parkway, the Pisgah Inn has the highest average occupancy rate, as well as the most contemporary accommodations. This facility was recently renovated by the concessioner. Over \$2 million was spent on renovations, including upgrades to the guestrooms and bathrooms; new furnishings (e.g., flat-screen televisions, refrigerators, coffee makers); onsite laundromat and payphones; and a computer in the lobby with internet access.

In 2007, the Rocky Knob cabins received some updating—such as new stove units, refrigerators, window fans, coffee makers, and roll-away beds. One cabin was also modified

for ADA accessibility along with a private bath. These renovations likely contributed to a 10% increase in the cabins’ occupancy rate in 2008.

Bluffs Lodge closed in 2011 and the Peaks of Otter Lodge still lacks certain modern conveniences, such as telephones and televisions in the guest rooms. Plans are being developed to make capital improvements at the Peaks Lodge such as roof replacement, sprinkler system upgrades, and electrical and sound proofing upgrades in the guest rooms.

Although the goal of such improvements is not to modernize these facilities to the point where they lose their charm, they are considered necessary to ensure economic viability and continuation of traditional overnight opportunities, part of the original intent of the parkway experience.

**OPPORTUNITIES FOR ORIENTATION, INTERPRETATION, AND EDUCATION**

**Entry and Orientation Experience**

At most NPS sites, when visitors first enter the park, they drive a relatively short distance before they either encounter a visitor orientation center or entrance station where they obtain information to help orient them to the park, plan their trip, and ask questions. This helps ensure a relatively high percentage of visitors are contacted during their visit. Currently, the parkway contacts only about

one million out of the approximately 16 million visitors each year.

The sheer number of possible access points precludes providing staffed entrance stations. There are, however, five major areas along the parkway where visitors enter the parkway. The following is a discussion of the entry and orientation experience at each.

**North Entrance.** The road that serves as the access to the parkway's northern entrance at Afton Mountain skirts a parking area adjacent to derelict buildings before visitors arrive at the parkway. Limited information and orientation is provided to visitors at a wayside just inside the parkway boundary. There is no formal entrance and the entrance ramp is poorly marked. A sense of arrival is missing. There is no visitor contact station to provide visitors information about their visit. The first restroom and official contact station with NPS personnel is 6 miles south on the parkway at Humpback Rocks, making it difficult for visitors to receive more detailed orientation information or to report safety problems.

**South Entrance.** Similarly at the parkway's southern entrance, no information, orientation or interpretation is provided for visitors entering or leaving the parkway at milepost 469. However, there is a Great Smoky Mountains NP visitor center within 5 minutes driving time from the parkway's entrance. Once visitor's head north on the parkway, the first opportunity to obtain information and orientation is 18 miles away at Waterrock Knob.

**Roanoke.** Many visitors access the parkway in the Roanoke area, especially at VA 220 near the Roanoke Mountain recreation area. About 10 miles north on the parkway, via a spur road, there is an NPS visitor center at Explore Park. However, this center is off the beaten path for the majority of parkway visitors and serves primarily only those visitors specifically seeking out Explore Park.

**Boone/Blowing Rock.** This area receives a large number of visitors that enter and exit the parkway; however, there is no major point of

contact. The closest site of contact is at the Moses H. Cone Memorial Park, where interpretive information about the historic site and sales of folk art are available. The Moses H. Cone site is undergoing a separate planning effort that has proposed a new visitor contact facility.

**Asheville.** This area has two visitor centers near major access points. The new Blue Ridge Visitor Center is on the parkway near I-40 and provides substantial levels of information, orientation and interpretive services in coordination with the Blue Ridge Heritage Area. Further north is the Folk Art Center, near NC 70, where information, sales, and interpretation of Appalachian folk art are provided.

### **Information, Interpretation, and Educational Opportunities**

Interpretation and educational programs are offered at many of the parkway's recreation sites. These include law enforcement-guided walks, evening campfire programs, curriculum-based outreach programs for schools, Junior Ranger programs, and other formal and informal contacts with visitors. One example is the popular Parks-as-Classrooms program, which reaches over 25,000 students. Special events and programs are also offered to visitors to provide more in-depth interpretation of specific parkway themes, such as mountain music programs and Revolutionary War reenactments.

The interpretive program also produces written information in the form of site bulletins, bulletin boards, web postings, and displays for park visitors. These programs and facilities are designed to help visitors make intellectual and emotional connections with the parkway's diverse natural, cultural, historic, and scenic resources. For example, the parkway offers 40 different site bulletins that provide visitors free information about recreational opportunities and unique natural and cultural features.

A number of interpretive facilities are provided along the parkway, ranging from visitor centers and contact stations to kiosks and wayside exhibits. Many of the wayside exhibits, constructed of routed wood, describe features at more than 265 overlooks along the parkway. These exhibits are used the most by visitors; however, they are expensive to maintain and some contain inaccurate information.

The parkway currently has six visitor centers and eight visitor contact stations that offer varying levels of information and services to the public. All of these facilities provide orientation materials (e.g., parkway maps and

brochures) as well as small bookstores/souvenir shops, many of which are operated by Eastern National, a nonprofit cooperating association of the parkway. A parkway visitor center accommodates higher levels of visitors compared to visitor contact stations and provides more in-depth interpretation about the parkway, such as multiple exhibits and/or educational films. A visitor contact station is a much smaller facility that provides very limited, if any, interpretation. Table 33 provides a summary of the visitor centers and contact stations along the parkway, including when they are open to the public.

**TABLE 33. PARKWAY VISITOR CENTERS AND CONTACT STATIONS**

Location of Facility	Visitor Center	Contact Station	Open Year-Round	Open Seasonally (May – October)
Humpback Rocks	•			•
James River		•		•
Peaks of Otter	•			•
Visitor Center at Explore Park	•			•
Rocky Knob		•		•
Blue Ridge Music Center	•			•
Moses H. Cone Manor		•		•
Linn Cove Viaduct		•		•
Linville Falls		•		•
Museum of North Carolina Minerals			•	
Craggy Gardens		•		•
Folk Art Center	•		•	
Blue Ridge Parkway Visitor Center	•		•	
Waterrock Knob		•		•

Annual visitation to parkway visitor centers and contact stations averages about one million people per year—representing an outstanding opportunity to convey information and encourage appreciation for parkway resources and values. However, limited staff and funding over the years have constrained the parkway’s ability to reach a greater portion of the 14.5 million annual visitors. As a result, there are missed opportunities to provide meaningful interpretation of the unique resources of the area. Furthermore, many interpretive facilities

are outdated, and information conveyed is oftentimes inaccurate and inconsistent with current scientific knowledge and the parkway’s primary interpretive themes. The most recent addition to the parkway is the new Blue Ridge Parkway Visitor Center (formerly named the Regional Destination Center) adjacent to the parkway headquarters near Asheville, North Carolina. This facility opened in 2008 and features a variety of state-of-the-art exhibits that highlight the natural and cultural diversity, economic traditions, and recreational opportunities found in

western North Carolina and along the parkway. The center is managed and operated in partnership with the Blue Ridge National Heritage Area.

Another major visitor center is at Explore Park near Roanoke, Virginia. This facility includes permanent exhibits that chronicle the early histories of the parkway. The visitor center is situated at the end of a spur road off the parkway, and as a result, visitors accessing the parkway from Roanoke may not be aware of the orientation and interpretive services available.

The Blue Ridge Music Center, the Museum of North Carolina Minerals, and the Folk Art Center are other major attractions for visitors travelling the parkway. These facilities—at parkway mileposts 213, 330 and 380, respectively—offer different perspectives on the unique natural and cultural diversity of the southern Appalachian Mountains. Because of the recent opening of the music center, the nearby visitor contact station at Cumberland Knob was closed due to limited park staff available to operate both facilities. The Museum of North Carolina Minerals is operated in partnership with the McDowell County Chamber of Commerce. The Folk Art Center and the Manor at Moses H. Cone are operated by the Southern Highland Craft Guild. Due to specific recreation management issues, Moses H. Cone is covered under a separate planning effort.

## **OPPORTUNITIES TO EXPERIENCE NATURAL SOUNDSCAPES**

### **Natural Soundscape**

The natural soundscape is an inherent component of “the scenery and the natural and historic objects and the wild life” protected by the Organic Act of 1916. National Park Service management policies (section 4.9) require the National Park Service to preserve the park’s natural soundscape and restore the degraded soundscape to the natural condition wherever possible. Additionally, the National Park Service is

required to prevent or minimize degradation of the natural soundscape from noise (i.e. inappropriate / undesirable human-caused sound).

Because the National Park Service works to protect and enhance park resources and visitor experiences, the park service differentiates between the physical sound sources and human perceptions of those sounds. Currently, the National Park Service refers to the physical sound resources (i.e. wildlife, waterfalls, wind, rain, and cultural or historic sounds), regardless of audibility, at a particular location as the *acoustical environment*, while the human perception of that *acoustical environment* is defined as the *soundscape*.

The National Park Service recognizes the acoustical environment as a resource in itself, separate from its relationship to wildlife and visitors. This section of the document will focus specifically on visitor opportunities to experience the natural soundscape. Noise related impacts to wildlife are covered under in the natural resources section of chapter 4.

### **Characteristics of Sound**

Humans perceive sound as an auditory sensation, created by pressure variations that move through a medium such as water or air, which is measured in terms of amplitude and frequency (Harris 1998; Templeton and Sacre 1997). Noise, essentially the negative evaluation of sound, is defined as extraneous or undesired sound (Morfev 2001). Sound pressure level is proportional to the sound power and is measured in decibels (dB). The decibel is a logarithmic scale unit that is commonly used to relate sound pressures to some common reference level, thus producing a smaller, more manageable range of numbers. The loudness of a sound as heard by the human ear is estimated by an A-weighted decibel scale, where the A-weighting provides a formula for discounting sounds at low (<1 kHz) and high (> 6 kHz) frequencies. This adjustment for human hearing is expressed as dB(A). For this discussion, the A-weighted

values are used to describe potential effects on the park’s acoustical environment and soundscape. Table 34 provides examples of A-weighted sound levels.

**TABLE 34. EXAMPLES OF SOUND LEVELS**

Reference Sound	dB(A) Level <sup>1</sup>
Normal breathing	10
Leaves rustling	20
Crickets (16 feet)	40
Normal conversation (5 feet)	60
2 stroke snowmobile (30 mph at 50 feet)	70
Helicopter landing at 200 feet	80
Motorcycle or heavy truck (25 feet)	90
Thunder	100
Military jet (110 feet)	120
Shotgun firing	130

<sup>1</sup> An increase of 10 dBA represents a perceived (to human hearing) doubling of sound pressure level; that means 20 dBA would be perceived as twice as loud as 10 dBA, 30 dBA would be perceived as 4 times louder than 10 dBA, etc.

solitude. The level of annoyance experienced is also related to rate of occurrence, duration, loudness, and sporadic nature of sounds (Newman, Pilcher, and Manning 2005). Furthermore, at certain decibel levels, these intrusions have been found to increase blood pressure and heart rate and cause sleep interruption and speech interference (table 35).

**TABLE 35. POTENTIAL EFFECTS OF NOISE EXPOSURE**

Sound Levels (dBA)	Relevance
35	Blood pressure and heart rate increase in sleeping humans (Haralabidis et al., 2008)
45	World Health Organization’s recommendation for maximum noise levels inside bedrooms (Berglund, Lindvall, and Schwela, 1999)
52	Speech interference for interpretive programs (U.S. Environmental Protection Agency, 1974)
60	Speech interruption for normal conversation (U.S. Environmental Protection Agency, 1974)

**Visitor Experience and Soundscapes**

The opportunity to experience an unimpaired natural soundscape is an important part of overall visitor experience and enjoyment. In fact, 95% of Americans have indicated that one of the most important reasons for preserving national parks is to provide opportunities to experience natural sounds (Haas and Wakefield 1998), such as wind, water, and natural quiet (Driver, Tinsley, and Manfredo 1991; Mace et al. 2003; McDonald, Baumgartner, and Iachan 1995). However, unwanted, uncharacteristic, or inappropriate noise can degrade visitor experiences by distracting visitors from the resources and purposes of the park, and increasingly, natural sounds are being masked or obscured by a wide variety of noise intrusions. Research suggests these intrusions can affect visitors’ perceptions of solitude and tranquility and can generate high levels of annoyance. Visitor evaluations of annoyance are affected by many factors including the setting in which the sounds occur, the visitors’ recreational activities, and their expectations of quiet and

**Soundscape Experience on the Blue Ridge Parkway**

The parkway has natural and cultural sounds that are integral to the visitor experience but unwanted, human-caused sounds can impact visitor experiences. Natural sounds along the Blue Ridge Parkway vary from nighttime sounds such as frogs and owls to running water, wind, and birdsong. These sounds are audible throughout the parkway in campgrounds, on trails, and other locations popular among visitors. Natural sounds are important to visitor experiences of nature and are crucial to the survival and reproduction of many wildlife taxa. For example, songbird mating and territoriality could be disrupted if male song is masked. Masking also affects acoustical communication. Animals have been shown to alter their calling behavior and shift their vocalizations in response to noise (Brumm and Slabbekoorn 2005; Patricelli and Blickley 2006; Slabbekoorn and Ripmeester 2008; Warren et al. 2006). The Appalachian Mountains shape the flyway for most eastern

migratory birds and the parkway is an excellent place for both bird-watching and autumn migratory bird counts.

Cultural sounds also support the visitor experience of park cultural resources. For example, several developed areas offer hands-on demonstrations of mountain life and culture, including musical events and other heritage performances.

Highway noise is the human-caused sound with the largest influence on the Blue Ridge Parkway's acoustic resources, visitors, and wildlife. As noted, appropriate levels of traffic noise are acceptable given the parkway's significance as the first national rural parkway to be conceived, designed, and constructed for a leisurely driving experience. However, the parkway connects Shenandoah and Great Smoky Mountains national parks by way of this "national rural parkway." Therefore, vehicle noise must be compatible with NPS management policies and 36 CFR section 2.12 on audio disturbance (not to exceed a noise level of 60 decibels measured on the A-weighted scale at 50 feet). Motorized use of the parkway involves a mix of visitor and local commuters and different types of vehicles, which can result in conflict and concerns. Types of activities that generate the most complaints about noise in the parkway include loud motorcycles throughout the park and RV noise in the campgrounds.

Maintenance is essential for maintaining the designed landscape found along most of the length of the parkway. Activities associated with maintenance include use of lawn mowers, weed wackers, chain saws, chippers, and other machines.

Between May and October, which is the peak visitor season, increased traffic noise and higher levels of sounds from people using parkway facilities can be heard. Hunting is prohibited within the parkway, but is allowed on some adjacent public and private lands. Gunshots may be heard from outside the parkway during active hunting seasons.

The Blue Ridge Parkway undergoes a variety of year-round road construction projects, critical to maintaining the quality of the parkway. Noise from heavy machinery, trucks, hammers, and other equipment associated with road construction are common along the parkway.

Aircraft activity is not a major noise source at the parkway, but small aircraft occasionally fly over, as do commercial jets at much higher altitudes.

Agricultural uses permitted along the parkway include hay production and livestock grazing. Associated sounds include cattle noises and those from farm vehicles and equipment. Park staff indicated that at certain places along the parkway, private residential and agricultural lands may be located just past the 80-foot parkway boundary. Noise from privately operated mowers or crop equipment may be audible near these areas and are not under control of park management.

### **Relevant Soundscape Research at Blue Ridge Parkway**

The Blue Ridge Parkway provides an incredible driving experience for a variety of user groups, including motorcyclists. Many motorcyclists go to the parkway each year to experience the twisting roads and breathtaking views. The Blue Ridge Parkway is centered on a driving experience and it is expected that appropriate levels of traffic noise will occur. However, parkway staff have received numerous complaints that loud motorcycle noise can be intrusive to other visitors trying to enjoy the overlooks, campgrounds, and other key areas (USDOT 2011).

A 2011 collaborative report conducted by the National Park Service and the Department of Transportation provided understanding of motorcycle noise measurements within the parkway. Motorcycles and associated sounds were evaluated by segmenting the vehicles into five types, which included: cruiser, sport, dual purpose, touring, and moped/scooter.



Eleven sample locations were chosen to enable data collection of (1) noise emission levels of motorcycles by monitoring near the road, and (2) sensitive receiver measurements in areas which receive frequent human use such as overlooks, picnic areas, campgrounds, hiking trails and visitor centers.

For each motorcycle category, the frequency, the maximum, minimum, and average vehicle pass-by A-weighted maximum sound levels, as well as the maximum, minimum, and average speeds were recorded. Acoustic monitoring results suggested that cruiser motorcycles were the most prevalent and exhibited the loudest sound outputs, averaging 72.8 L<sub>Amax</sub> (dBA) and peaking at 84.8 L<sub>Amax</sub> (dBA). Moped/scooter categories were the least prevalent and produced the lowest sound outputs, averaging 62.0 L<sub>Amax</sub> (dBA) and peaking at 62.3 L<sub>Amax</sub> (dBA). The cruiser class maintained frequency ranges between 100-400 Hz, exceeding the other motorcycle categories.

According to *Code of Federal Regulations 40 CFR 205 Part D*, motorcycles manufactured in 1986 or later must not exceed an L<sub>Amax</sub> level of 80 (dBA) with the exception of mopeds and older motorcycles at a distance of 50 feet as the motor passes by. According to the report, of the 73 cruiser motorcycle pass-by events, 15 exceeded 77 dBA for their broadband L<sub>Amax</sub>, and given the soft ground which likely absorbed some of the sounds, approximately 21% of the cruisers exceeded the federally regulated noise levels.

Furthermore, this study suggested that sound level decreased less rapidly for cruisers than the other tested motorcycles, and cruiser motorcycle sounds propagate more readily, resulting in greater sound levels farther from the road (USDOT 2011).

Table 36 shows examples of sound levels associated with groups of motorcycles at several of the sensitive locations. For these sites, a group of motorcycles was identified, and based on the 1-second L<sub>Amax</sub> time histories in the sound level meter files, the maximum sound level for the group was

extracted, and the time in seconds that the group of motorcycles exceeded the ambient sound was determined. In some cases, noise from another source could be identified before the sound from the motorcycles completely faded (sound was not at the ambient level either before or after the event); these cases are marked with “+”; this indicates the time exceeding ambient would be longer than indicated had there been no other noise sources. Please note that the times being calculated do not represent a time audible metric, which would require a sound detectability analysis (USDOT 2011).

**TABLE 36. EXAMPLE SOUND LEVELS AND EXPOSURE TIMES AT RECEIVER LOCATIONS**

Site Location	~Ambient Sound Level (dBA)	L <sub>Amax</sub> for Group of Motorcycles (dBA)	Approximate Time Exceeding Ambient (seconds)
Thunder Struck Ridge Overlook	Highs 30s	81.6	48+
Waterrock Knob (near visitor center)	Mid 40s	56.9	22
Grass Ridge Mine	Low 50s	81.4	44
Mountains-to-Sea hiking trail near Grass Ridge Mine Overlook	Mid 30s	71.5	64+
Mt. Pisgah campground	Mid 30s	55.0	27+
Graveyard Fields Overlook	High 20s	78.0	45+
Graveyard Fields hiking trail	Low 30s	59.7	59
Devil's Courthouse Overlook	High 30s	80.0	37

Table 36 shows that at parkway overlook sites, the sound levels from isolated groups of motorcycles exceeded 80 dBA. On a hiking trail about 200 feet (61 m) from the road, the sound level exceeded 70 dBA. Near a visitor center about 300 feet (91 m) from the road, at a campground about 550 feet (168 m) from the road, and on a hiking trail about 1005 feet (306

m) from the road, the sound levels reached 55-60 dBA. (Distances given as slant distance—accounts for distance from the road and change in elevation.) The time exceeding ambient was from 22-64+ seconds (USDOT 2011).

The above information gives some indication as to what a park visitor may experience from a motorcycle or group of motorcycles passing by. The motorcycles may be loud or quiet and the time exceeding the ambient sound level varies (USDOT 2011).

To get an idea of how many times park visitors were exposed to motorcycle noise during a visit to the Blue Ridge Parkway on a Saturday in mid-September, an approximate 5-hour time block was examined for Sites BR04R and BR05S (same section of roadway affected both sites), Grass Ridge Mine Overlook, and Mountains-to-Sea hiking trail, to see how many motorcycles passed by. The total number of motorcycles passing by (traveling both directions) was 385 (approximately 74% cruisers, 7% sport, 3% dual purpose, 12% touring, and 4% moped/scooter). If a visitor were at the location for 20 minutes (a reasonable duration for an overlook visit), they would have been exposed to an average of about 25 motorcycles. It should be noted that in addition to motorcycle noise, visitors were also exposed to other types of vehicle noise (USDOT 2011).

**VISITOR CIRCULATION AND PARKING**

The location and popularity of recreational sites and activities often affects visitors’ abilities to circulate in the parkway and access particular sites. The most frequently visited areas along the parkway, as identified in the 2002 visitor survey, are Linville Falls in the Black Mountain segment (29.7%), Linn Cove Viaduct in the Black Mountain segment (29.0%), Moses H. Cone Memorial Park in the Highlands segment (28.8%), Folk Art Center in the Asheville segment (24.9%), and Mt. Pisgah in the Pisgah segment (23.7%) (UVM 2002). Craggy Gardens, in the Black Mountain segment, is another major recreational

destination. The section of the parkway near the Peaks of Otter Recreation area (in the Ridge segment) experiences high, local, nonrecreational use and is an important access point for recreational users as well. State Route 43 enters the Peaks of Otter area at milepost 85.9 and follows the parkway south to milepost 91.0. Because of year-round local use this section of parkway is plowed in the winter. Seasonal road closures primarily affect nonrecreational users as winter recreational visitation is low. Parking capacity is an issue at the Peaks of Otter Lodge restaurant, which is a favorite of local residents and visitors, on holidays and weekends (DEA 2004).

The popularity of the parkway’s attractions can lead to traffic congestion and parking issues. The primary mode of travel is private vehicle, as originally intended, which not only affects parking but access and circulation as well. No transit service between adjacent communities and parkway facilities or attractions is provided along the parkway that could help alleviate congestion. Although the majority of visitors surveyed indicated they experienced little to no issues during their visit in 2002, some identified traffic congestion and difficulty finding a parking place as two major issues. Weekend visitors found the lack of available parking spaces at some overlooks and visitor centers to be a larger problem than weekday visitors (UVM 2002). In some parking areas, weekend volumes are more than double the weekday volumes (DEA 2004). Table 37 identifies the percentage of visitors who noted these issues as a problem on weekdays versus weekends (UVM 2002).

**TABLE 37. PROBLEMS IDENTIFIED BY VISITORS BY WEEKDAY/WEEKEND**

Issue	Weekday % Visitors	Weekend % Visitors
Difficulty finding a parking space	35.7%	64.3%
Crowding at park overlooks	28.0%	72.0%
Crowding at park visitor centers	34.5%	65.5%

Source: UVM 2002.

Based on the 2002 study, three parking locations in particular are exceeding capacity during peak visitation: (1) the Moses H. Cone Memorial Park parking area (being addressed under a separate planning study), (2) the Julian Price Memorial Park parking area, and (3) the Graveyard Fields Overlook. The first two are in the Highlands segment and the latter is in the Pisgah segment. As noted in the “Traffic and Transportation” section, the Graveyard Fields Overlook has the highest number of occupied parking spaces, as well as the highest number of illegally parked cars. Park law enforcement staff have also noted parking problems during the peak season at Mabry Mill (in the Plateau segment), the amphitheater at milepost 213 (in the Plateau segment), and during events at Brinegar Cabin at milepost 238.5 near Doughton Park (in the Highlands segment) (DEA 2004). Park staff have also noted that the parking lot at Linville Falls (in the Black Mountain segment) is typically full during the summer and that parking is the limiting factor regulating use levels at this recreation area.

Park staff have noted much overflow parking at Humpback Rocks (Ridge segment) and visitors have complained to park staff about the limited parking situation. In the Asheville segment there is high recreational use mixed with commuter traffic, particularly between U.S. 70 and NC 191. Recreationists here park vehicles in undesignated areas due to the absence of paved parking at the Mountains-to-Sea Trail trailhead (DEA 2004). According to park staff, little to no designated parking is provided along the parkway to access the limited trails that are provided. Park staff note that trails near Asheville are heavily used by locals, resulting in crowding on trails, traffic congestion, and damage to road shoulders. The Asheville community wants better recreation access through various trails and periphery recreation areas (NPS 2008b).

## **VISITOR PERCEPTIONS OF CROWDING**

Understanding visitor perceptions of crowding is essential for determining the appropriate types and extent of use that can

be accommodated along the parkway while sustaining the quality of its natural and cultural resources and visitor experiences. The NPS approach to ensuring that use does not degrade resources or experience is referred to as “user capacity management.” The user capacity section of chapter 2 provides additional information about this concept, as well as a management framework that would be implemented under the action alternatives to address future crowding problems along the parkway.

When asked about the special values that are most important to their parkway experience, visitors describe the beauty of the views from and along the roadway. The natural setting of mountains and valleys, the peacefulness of rural and pastoral landscapes, and the dramatic high-elevation vistas are frequently mentioned by visitors as important. The character of the self-contained driving experience is also highly regarded by visitors. Peace, solitude, leisure, freedom from traffic and speed, and the absence of commercial advertising are other aspects of the parkway experience that are particularly valued. Ready access to diverse recreational opportunities is also significant to parkway visitors.

To gain a better understanding about visitors’ perceptions about crowding, the University of Vermont’s Visitor Survey Study (2002) asked a series of questions on this topic. In one question, respondents were presented with a series of photographs depicting different amounts of traffic along a generic section of the parkway. Respondents were asked to evaluate the acceptability of each photograph using a scale that ranged from -4 (very unacceptable) to +4 (very acceptable). Respondents were then asked to indicate the photographs that showed the number of cars they preferred to see; the number that would be so unacceptable that they would no longer visit the area (referred to as tolerance); the number of cars for which the parkway should manage; the number of cars typically seen by respondents during their visit on the day of the survey; and the number of cars they had expected to see during their visit.

Table 38 provides a summary of the survey results, which shows that respondents are experiencing traffic levels slightly under what they expected to see and somewhat over their preference level, but well under their tolerance or what they believe the parkway should manage for. Please note that the table is based on cars only and does not include motorcycles, bicycles, or RVs.

**TABLE 38. VISITORS' LEVEL OF ACCEPTABILITY FOR NUMBER OF CARS SEEN ON THE PARKWAY**

Acceptability Level	Number of Cars
Highest acceptable number of cars	7
Preferable number of cars	3-4
Number of cars that would be tolerated	16
Number of cars for which NPS should manage	12
Number of cars typically seen	5
Expected number of cars	6-7

The 2002 visitor survey study also analyzed visitor perceptions of crowding at 11 developed recreation areas along the parkway. Respondents were asked how many visitors they typically see; how many visitors they preferred to see; how many visitors were at their tolerance level to see; and how many visitors would require management action to reduce the number. Table 39 provides a

summary of the survey results, which show that most areas have existing use levels closely in line with visitor preferences. Exceptions include Graveyard Fields, Looking Glass Rock, and Moses H. Cone (not part of this planning process). These areas have use levels that are almost twice what visitors would prefer; however, all 11 areas were below respondents' tolerance levels

To measure visitor perceptions of issues pertinent to their experience at the parkway, the survey included a question containing a list of issues. Respondents were asked to rate each on a three point scale where 1 = no problem, 2 = small problem, and 3 = big problem. All issues included in the question were rated by a majority of respondents as "no problem." Issues rated as the biggest problems were (1) poor condition of park trails, (2) traffic congestion on roads, (3) difficulty finding a parking place, (4) inadequate number of visitor facilities/resources, (5) crowding at park overlooks, and (6) crowding at park visitor centers. Visitors surveyed on weekends were more likely to rate crowding-related issues as somewhat bigger problems. While results indicate that crowding is currently not a big problem, five out of the six highest rated problems related to visitor use levels and crowding.

**TABLE 39. VISITORS' LEVEL OF ACCEPTABILITY FOR NUMBER OF PEOPLE SEEN AT DEVELOPED RECREATION AREAS**

Location	Typically Seen	Preferred	Tolerance	Management Action Needed
Cumberland Knob	9	12	44	65
Folk Art Center	12	10	42	63
Graveyard Fields	20	11	44	71
Linn Cove	15	11	45	69
Linville Falls	12	16	48	66
Looking Glass Rock	15	8	40	64
Moses H. Cone Memorial	14	8	46	65
Peaks of Otter	12	15	44	71
Julian Price Memorial	16	15	47	62
Rocky Knob	9	12	46	62
Waterrock Knob	13	12	43	72
Average	13	12	44	66

## **VISITOR SAFETY**

Outside of the traffic safety conditions discussed in the “Traffic and Transportation” section, the other visitor safety concern raised during project scoping was related to crime at visually isolated parking areas. The very nature of the parkway’s designed landscape in which land forms were shaped and vegetation planted has resulted in some overlook parking areas not being visible from the parkway road. At some

overlooks in urban settings, and others in isolated areas where views from the road are obstructed, there are ongoing problems with illegal activities and concern for visitors’ personal safety. The unstaffed visitor station at Cumberland Knob in the Highlands segment is also a safety concern, as there is no one for visitors to contact for help in case of emergency. For discussion of traffic-related safety issues, refer to the “Traffic and Transportation” section.

# TRAFFIC AND TRANSPORTATION

## INTRODUCTION

This section describes the physical properties of the transportation network, both along the Blue Ridge Parkway and in the surrounding region, and quantifiable characteristics that help define the use of the parkway as a transportation facility. The descriptions in this section are concise summaries organized by the traffic and transportation subtopics, which match those analyzed in “Chapter 4: Environmental Consequences.”

This section describes existing traffic and transportation characteristics, including

- vehicular access
- traffic volumes
- traffic mix (proportions of different vehicle types using the parkway)
- traffic safety conditions
- parking conditions
- alternative transportation modes
- road conditions

While there are some parkway-wide aspects to the vehicular access topic, the majority of the discussion lends itself to a segment-by-segment breakdown. The other topics are presented in a parkway-wide format, with references to specific conditions in segments or recreation areas as appropriate.

The parkway was designed as a scenic drive, rather than as a means to get from one place to another as quickly as possible. The parkway typically has an 850-foot wide right-of-way or an average of 110 acres per mile including fee simple and scenic easement lands, which helps to maintain the scenic nature of the drive. Construction of the parkway started in 1935. It was about two-thirds complete by the start of World War II in 1941 (NC Natural n.d.) All but 7.5 of the 469 miles were completed by 1967. Construction was not complete until the last remaining section, including the Linn Cove Viaduct, opened in 1987 (BRPA n.d.) The paved roadway is about 20 feet wide with

wider pavement on curves and there are no paved shoulders. It has a maximum speed limit of 45 mph, with a speed limit of 35 mph in many of the recreation areas.

Over the years, higher speed highways have been built in the area surrounding the parkway. Segments of I-81 opened in 1959 and the interstate was fully completed in 1971 (FHWA 2003). The fastest route to get from Waynesboro, Virginia, to Cherokee, North Carolina, is about 385 miles long, travels primarily on I-81, and takes about six and a half hours to drive. By comparison, it may take two full days to drive the entire length of the parkway.

The parkway is less than a day’s drive from a large population of 75 million people, including all of Virginia, North Carolina, South Carolina, West Virginia, and Delaware; most of Georgia, Tennessee, Kentucky, Pennsylvania, and New Jersey; and the southern half of Ohio. There are many major metropolitan areas within a day’s drive of the parkway, including Atlanta, Nashville, Louisville, Cincinnati, Columbus, Pittsburgh, Philadelphia, Baltimore, and Washington, D.C.

The Blue Ridge Parkway is unique in that there are no entrance stations, no fees, and the roadway itself is the main park experience. Recreational trips make up the majority of trips along the parkway. With no entrance fees, the parkway also handles a relatively large amount of nonrecreational trips as local residents use the roadway for commuting or personal business, especially in the more urbanized areas in Roanoke, Virginia, and Boone/Blowing Rock and Asheville, North Carolina. As more residential development is occurring along the rural section of the parkway in the Plateau and Highlands segments, these sections of the parkway are also subject to more nonrecreational traffic use.

While there are no entrance stations, there are gates to temporarily close sections of the parkway, primarily during the winter months when weather events such as ice and snow warrant closing the parkway for safety purposes. Recreational visitation is low during the winter months, so these seasonal road closures generally have more impact on the local, nonrecreational users.

By definition as a national rural parkway, the Blue Ridge Parkway is to be managed as a limited access roadway. Thirty grade-separated parkway and U.S. and state highway crossings were constructed with access ramps to facilitate connections to major routes along the length of the parkway. The grade-separated crossings provide an uninterrupted driving experience and they also determine the primary locations for access to the parkway. However, as the states of Virginia and North Carolina purchased the parkway right-of-way, they allowed 104 at-grade secondary road intersections with the parkway in Virginia and 95 in North Carolina (NPS 1995). There also are over 100 private road crossings that intersect at-grade with the parkway. Most of the private road connections and about two-thirds of the secondary road at-grade intersections are in the Plateau and Highlands segments, which only contain about one-third of the total parkway mileage. These at-grade intersections conflict with the goal to operate the parkway as a limited access roadway. There is no direct access with the four interstate highways crossing the parkway. U.S. Forest Service administrative roads, other government agency roads, and parkway service roads also intersect the parkway road. These road connections account for another 50 at-grade intersections.

As residential development occurs on farm lands that have direct private drive connections with the parkway, and as private lands adjacent to secondary roads are converted from agricultural to residential use, nonrecreational trips on the parkway will likely increase. Increased traffic volumes and turning movements may potentially pose a serious threat to the NPS goal of limiting

access to provide a high quality and safe experience for recreational users.

Improvement of secondary and primary roads on park land would also have a direct impact on park natural, cultural, and scenic resources. In response to these issues, there is a current moratorium, which started in the mid-1990s (Pleasantvue.com 2008), on allowing road improvements within the parkway boundary.

## **VEHICULAR ACCESS**

Vehicular access refers to the ease and convenience of accessing the parkway with an automobile, driving to destinations along or adjacent to the parkway and finding parking close to desired destinations. The parkway is a limited access roadway. There is no direct access between any of the intersecting interstate highways and the parkway. Access for interstate highway travelers is typically obtained from a U.S. highway, with a distance of 3 to 4 miles to return to the point where the parkway crosses the interstate highway. There are typically grade-separated access points at locations where U.S. highways intersect the parkway. However, many state highways and local roads cross the parkway without direct access. This includes about 70 grade-separated crossings with no access to the parkway and about 30 grade-separated crossings where parkway traffic does not conflict with through traffic from the crossing road, but there are nearby ramps that provide access to and from the parkway (NPS 1995).

In many sections of the parkway, local roads function as frontage roads. No commercial traffic is allowed because as a national rural parkway the roadway is dedicated to recreational driving purposes and it is not for commercial or regional transportation purposes.

The primary means of accessing the parkway for travelers from outside the region is via the U.S. Interstate System. Because there is no direct interstate highway access to the parkway road, travelers need to exit in the

parkway vicinity and follow signs to the nearest highway with parkway access. The primary interstate highway routes are as follows:

- Interstate 81 is roughly parallel to the parkway. It is about 10 miles to the west in the northern portion of the parkway in Virginia and about 40 to 50 miles to the west in the southern portion of the parkway in North Carolina. It is the primary access to the parkway for travelers from the East Coast, including the Washington, D.C. metro area.
- Interstate 64 travels in a primarily east-west direction. It crosses the north end of the parkway in Virginia at milepost 0.0. To the east, it travels to the Virginia state capital, Richmond, where it connects with I-95. It terminates in the populous Norfolk / Virginia Beach area of southeast Virginia. To the west, it travels through West Virginia, Kentucky, southern Indiana, and southern Illinois and terminates at a junction with I-70 in the St. Louis, Missouri, area.
- Interstate 73 is a proposed north-south interstate highway that would cross the parkway in the Roanoke segment on the south side of Roanoke, Virginia, at milepost 121.4, at the current U.S. 220 crossing location. It is being planned by the Virginia Department of Transportation.
- Interstate 77 is a north-south interstate highway that crosses the parkway in the Plateau segment at milepost 200.7, near the town of Hillsville, Virginia. To the south, it travels through Charlotte, North Carolina, and terminates at a junction with I-20 in Columbia, South Carolina. To the north, it travels through West Virginia (it is concurrent with I-64 up to Charleston, West Virginia) and then north into eastern Ohio. It crosses I-70 and then terminates at a junction with I-80 in the Cleveland, Ohio, area.
- Interstate 40 travels in an east-west direction and is roughly parallel to the southern portion of the parkway in North Carolina. It is about 40 miles to the south as the parkway enters North

Carolina, with the distance diminishing to the west. It crosses the parkway in the Asheville segment at milepost 383.4, just east of Asheville, North Carolina. To the east, it travels through the North Carolina state capital, Raleigh, crosses I-95 and then travels in a southeast direction to its terminus near the Atlantic Ocean at Wilmington, North Carolina. To the west, it travels through Nashville and Memphis, Little Rock, Oklahoma City, Albuquerque, and Flagstaff on the way to its terminus northeast of Los Angeles, California.

- Interstate 26, which was completed in 2003, starts at I-81 and travels in a primarily southeast direction. It crosses the parkway in the Asheville segment at milepost 392.0, south of Asheville. To the southeast, it travels through Columbia, South Carolina, crosses I-95, and then terminates at Charleston, South Carolina.

### **Segment 1—Ridge, Mileposts 0–106**

This segment has 64 overlooks and parking areas. The Bluff Mountain tunnel is the only tunnel in Virginia. This segment has very few bridges because the parkway road alignment is cut into the mountainside or follows the top of the ridge for most of the segment. Most of the bridges are in the Otter Creek and the James River crossing area (DEA 2004). Visitor traffic is concentrated in the three recreational areas (Humpback Rocks, Otter Creek/James River, and Peaks of Otter) while traffic tends to be more dispersed along the rest of the parkway in this segment.

The primary grade separated parkway accesses in this segment are as follows:

- U.S. 250 (the Rockfish Gap Turnpike) is the first access point and provides indirect access for I-64 travelers. It roughly parallels I-64 and provides local access between the towns of Staunton and Waynesboro on the west side of the parkway and Charlottesville on the east side.



- U.S. 60 (milepost 45.6) is near the town of Buena Vista. The access point is about 8 miles east of I-81.
- U.S. 501 (milepost 63.8) is near the crossing of the James River, which is the lowest point along the length of the parkway. Another scenic attraction, Natural Bridge, is between I-81 and the parkway. It provides local access between the towns of Glasgow on the west side of the parkway and Lynchburg on the east side.
- VA 43 (milepost 85.9 to 90.9) connects the towns of Buchanan and Bedford. It is concurrent with the parkway for about 5 miles.
- U.S. 460 (milepost 105.7) crosses the parkway near the eastern outskirts of Roanoke.

There are 13 road closure gate locations in this segment. The section that is concurrent with VA 43 is one of the few sections that are plowed by the Virginia Department of Transportation in the winter (DEA 2004).

### **Segment 2—Roanoke, Mileposts 106–136**

This segment follows the outskirts of the town of Vinton and the city of Roanoke through Roanoke County in Virginia. This is the largest city in western Virginia with a metro area population of about 300,000 and it also is the largest urban area next to the parkway (Census 2008). When looking at a map, the parkway has the appearance of an urban beltway around the southeastern area of Roanoke, about 5 miles from the center of the city. Views of the suburbanization of the once rural landscape can be seen from 18 overlook parking areas in this segment. Because of the parkway's limited access, several radial arterials cross over the parkway without access. These include VA 634 (Hardy Road), VA 116 (Jae Valley Road), and VA 668 (Yellow Mountain Road). Of the 27 crossings in this segment, 20 are grade-separated without parkway access (NPS 1995).

The primary grade-separated accesses to the parkway are as follows:

- VA 24 (East Washington Avenue / Stewartsville Road) (milepost 112.2) provides access on the east side of Roanoke.
- At approximately milepost 120, the parkway provides the only access to the Roanoke Mountain Loop Road, a 4-mile long one-way scenic loop that goes up, around, and down Roanoke Mountain east of the parkway. To the west, the parkway provides access to the Mill Mountain Spur Road, which provides visitor access to the Roanoke Mountain Campground and downtown via the Fishburn Parkway.
- U.S. 220 (Franklin Road) (milepost 121.4) provides access south of Roanoke. This road is the continuation of I-581, which extends southeast from I-81 and ends 1.6 miles to the north.

There are four road closure gate locations in this segment. Because winter recreational volumes are low, winter road closures disproportionately affect nonrecreational users (DEA 2004).

### **Segment 3—Plateau, Mileposts 136–217**

This segment begins at the southern limits of Roanoke County and extends 81 miles south to the Virginia and North Carolina state line. This segment has a straighter alignment through mostly pastoral farm and rural residential landscapes. There are relatively few overlooks (18) spread along the 81 miles of this segment. However, it provides the most scenic views of farmland to be seen along the parkway (DEA 2004). Many local secondary (53) and private (60) roads intersect the parkway at-grade and other public roads on park land function as frontage roads running parallel to the parkway. This segment has about two-thirds of the parkway's total at-grade intersections and crossings (NPS 1995). Due to increased residential development in the region around this segment, there are

appreciable road improvement pressures. Major recreation areas in this segment are Rocky Knob and Mabry Mill. Traffic congestion and parking capacity are issues at Mabry Mill almost every weekend during the visitor season.

The primary parkway access points are as follows:

- An approximately ¼ mile-long ramp connects U.S. 221 (milepost 136.1) to the parkway.
- VA 8 (milepost 165.3) connects to I-81 near Blacksburg to the north and U.S. 58 to the south.
- U.S. 58 (milepost 177.7) crosses the parkway just south of the Mabry Mill recreation area, which is a major tourist attraction. This crossing is just north of Meadows of Dan. It provides local access between the towns of Hillsville on the west side of the parkway and Stuart on the east side.
- U.S. 52 (Fancy Gap Highway) (milepost 199.4) provides indirect access for I-77 travelers and provides access to the town of Hillsville to the north and Mount Airy, North Carolina, to the south.
- VA 89 (Skyline Highway) (milepost 215.8) crosses the parkway just north of the state line and provides access to Galax to the north.

There are six road closure gate locations in this segment (DEA 2004). Road closures can have appreciable impacts on local nonrecreational users, as they comprise almost 35% of the total traffic in this segment (DEA 2002). Several short sections of the parkway in this segment are not gated or closed during winter weather events due to the number of residents that need to travel the parkway and connecting secondary roads because they provide the only means of access to and from their homes. This presents a road safety issue as the parkway does not have the staff or equipment to plow the parkway.

#### **Segment 4—Highlands, Mileposts 217–300**

This segment extends 83 miles and includes Doughton Park and the Moses H. Cone and Julian Price memorial parks. There are several bridges in the first 15 miles of this segment and several bridges in the Boone/Blowing Rock area.

The primary parkway access points are as follows:

- NC 18 (milepost 217.3) is the first access point in North Carolina. Less than one mile east of the parkway, NC 18 ends at NC 89, which connects to VA 89 at the state line and provides access to the town of Mount Airy on the east side.
- U.S. 21 (milepost 229.6) provides access to Stone Mountain State Park, connects with I-77 to the south and the town of Sparta to the north.
- U.S. 421 (milepost 276.3) provides access to Wilkesboro and Winston-Salem to the east and the town of Boone to the west.
- U.S. 221 runs parallel to the parkway and has several access points in this area, including at milepost 292.0 near the town of Blowing Rock.

There are six road closure gate locations in this segment. Sections are often closed during the winter for long periods of time (DEA 2004). This segment has the second-most at-grade intersections (76 total) of the parkway segments, including about 40 secondary state highways and about 25 private access roads (NPS 1995). Secondary road improvement pressures are greater in this segment than other areas on the parkway due to increased residential development near the parkway.

#### **Segment 5—Black Mountain, Mileposts 300–377**

This segment extends 77 miles to the northern outskirts of Asheville, North Carolina. It provides the only access to Mount Mitchell, the highest point east of the Mississippi River. This segment includes several bridges and

eight tunnels as the parkway travels along the high peaks of the Black Mountains (DEA 2004). This segment includes the final parkway section, opened in 1987, around Grandfather Mountain. The Linn Cove Viaduct in the Grandfather Mountain section has become one of the iconic bridge images of the parkway. The viaduct and its associated visitor contact station are a focus for visitor activity. Recreation areas in the segment include Linville Falls, Museum of North Carolina Minerals, Crabtree Falls, and Craggy Gardens.

The primary parkway access points are as follows:

- U.S. 221 (known as the Blowing Rock Highway in this area) has two additional access points to the parkway at milepost 305.1 and milepost 317.5.
- NC 226 (milepost 330.9) provides access to the parkway near Little Switzerland, one of the only places where private commercial activity exists directly on the parkway.
- Craggy Gardens Road (milepost 367.6) is the only road that connects to the parkway in the last 26 miles of this segment.

There are 15 road closure gate locations in this segment. The Craggy Gardens area is typically closed for most of the winter (DEA 2004).

### **Segment 6—Asheville, Mileposts 377–393**

This segment skirts the city of Asheville, which is the largest city in North Carolina west of Charlotte. The parkway circumnavigates the southeastern metro area, about 5 miles from the center of Asheville. It is outside several freeways that skirt the center of the city, including I-40 on the south and I-240 on the east. All but two of the state and U.S. highways are grade-separated and there are no at-grade private road accesses in this segment.

The primary parkway access points are as follows:

- Webb Cove Road ties into NC 694 (Town Mountain Road) (milepost 377.4) and provides direct access to residential housing developments.
- U.S. 70 (Tunnel Road / Black Mountain Highway) (milepost 382.5) provides access east of Asheville, including the town of Black Mountain to the east.
- U.S. 74 (Charlotte Highway) (milepost 384.7) provides access southeast of Asheville and provides indirect access for I-40 travelers. It is the most direct route between Charlotte, about 120 miles southeast of the parkway, and Asheville.
- U.S. 25 (Hendersonville Road) (milepost 388.9) provides access south of Asheville. This is the closest access to the Biltmore Estate, which is America's largest home and a national historic landmark.
- NC 191 (Brevard Road) (milepost 393.7) provides indirect access, through housing developments, for I-26 travelers.

There are five road closure gate locations in this segment. There are frequent winter closures north of the Folk Art Center, which is at milepost 382 (DEA 2004). Park staff has indicated that there is visitor demand for year-round use of the parkway in this segment; however, there is only enough staff and funding to keep the parkway open for part of the year (NPS 2008d).

### **Segment 7—Pisgah, Mileposts 393–469**

There are 17 tunnels and only a few bridges through this mountainous stretch of the parkway. This segment has the most overlooks with 77 along the parkway and another six overlooks on the Heintooga Spur Road connecting with the parkway at milepost 458.2 (DEA 2004). The southern 13 miles of this segment travel through the Qualla Boundary, which is the reservation for the

Eastern Band of the Cherokee Indians  
(Cherokee n.d.)

The primary parkway access points are as follows:

- U.S. 276 (milepost 411.8) is a fairly isolated winding, mountainous road. It connects the towns of Waynesville on the north side of the parkway and Brevard on the south side.
- U.S. 74 (Great Smoky Mountain Expressway) (milepost 443.2) passes through Waynesville on the way to I-40 to the northeast of the parkway and the town of Sylva to the southwest.
- U.S. 441 (Newfound Gap Road) (milepost 469.0) is the southern terminus of the parkway, near the town of Cherokee, North Carolina. It is the primary route across Great Smoky Mountains National Park, traveling north 33 miles through the park to Gatlinburg, Tennessee.

There are 13 road closure gate locations in this segment. Except for the northern 9 miles, this segment is typically closed for the majority of the winter (DEA 2004).

**TRAFFIC VOLUMES**

Because the parkway has no entrance stations or fees, parkway staff count traffic entering the parkway as the primary means to quantify visitation. Since 1970, there have been 56 traffic count locations identified along the parkway, primarily on access ramps. All of these locations were originally counted using tubes that were placed across the count locations. By 1989, inductive loops were embedded in the road pavement at 15 locations. These inductive loops provide continuous year-round data. Since 2003, the only data that has been collected is from the inductive loop locations. Volumes at the other locations are estimated using regression formulas, which are based on past relationships with the inductive loop data (NPS n.d.b.) To provide data for the parkway’s general management plan, more

detailed information was collected. As a part of the process, a comprehensive data collection program was completed in August of 2002. Data collected included the following:

- Peak Hour Turning Movements: These were collected at key intersections along the parkway to provide information on the number of cars going left, through or right from each of the approaches.
- Automatic Traffic Counters: Daily traffic counts were collected at key locations along the parkway to determine hourly directional traffic volumes and traffic mix (classification).
- Activity Centers: Data collected at key activity centers included peak hour access volumes, parking occupancy totals, illegally parked car counts, and parked vehicle classification.
- Roadside Surveys: One weekday survey location was set up in each segment. Weekend survey locations were set up in the Plateau and Asheville segments. Data collected from drivers included trip purpose, vehicle occupancy, trip origin, access point used to enter the parkway, planned length of travel on the parkway, and general comments.

The data collected represented the average peak season. The daily volumes collected by the automatic traffic counters are shown in table 40.

**TABLE 40. EXISTING BLUE RIDGE PARKWAY TRAFFIC VOLUMES**

Study Segment	Milepost	Average Peak Season Traffic Volume (August 2002)	
		Weekday	Weekend
Ridge	107	1,880	2,140
Plateau	127	930	1,240
Plateau	189.5	840	1,920
Highlands	286	2,760	3,690
Black Mountains and Asheville	378	1,650	2,350
Pisgah	397	1,180	2,710

Source: Data collection by TRA in August 2002.

The highest traffic volumes were in the Highlands segment, which includes the Boone/Blowing Rock area where there are many summer activities and attractions. The lowest weekday volumes were in the Plateau segment and the lowest weekend volumes were in the Roanoke segment.

Park staff are concerned that increases in nonrecreational local and commuter traffic, which has different characteristics than parkway recreational traffic, is having adverse impacts on recreational visitors who travel the parkway. The local drivers are more familiar with the portions of the parkway that they travel on a regular basis and generally they have a desire to travel faster and for short distances (NPS 2008d). As the frequency of parkway connections with the regional transportation system increases, the effect can be increased congestion. However, there is also a benefit to parkway visitors to have more access to off-parkway services and attractions.

The average vehicle occupancy varies from segment to segment. The vehicle occupancy values collected in August 2002 are shown in table 41. The parkway-wide average vehicle occupancy is 2.1 persons per vehicle on weekdays and 2.3 on weekends. This varies somewhat from segment to segment, with a high of 2.4 in the Black Mountains and Pisgah segments and a low of 1.8 in the Roanoke segment (DEA 2002).

**TABLE 41. EXISTING BLUE RIDGE PARKWAY VEHICLE OCCUPANCY VALUES**

Study Segment	Milepost	Average Peak Season Vehicle Occupancy (August 2002)	
		Weekday	Weekend
Ridge	92	1.9	
Roanoke	160	1.8	
Plateau	189.5	1.9	2.2
Highlands	236	2.0	
Black Mountains and Asheville	360	2.4	2.4
Pisgah	404	2.4	

Source: Data collection by DEA in August 2002.

It has been found that the average vehicle occupancy for outdoor recreation types of trips is about 2.5 and that the average vehicle occupancy for commuting trips is about 1.1, with values for other nonrecreational purposes, such as personal business, shopping/dining, and transporting others, being somewhat higher.

In general, as the percentage of nonrecreation trips increases, the average vehicle occupancy decreases. This relationship is evident in the parkway data for trip purposes collected in August 2002, which is summarized in table 42. Collected by roadside survey interviews of drivers on the parkway, the “outdoor recreation” trip purpose represents recreational trips by parkway visitors. The “commuter” trip purpose is travel to or from work, representing a local trip that occurs routinely along the parkway. The “travel for work” trip purpose represents a local trip that someone may have taken as part of their job, but which may not occur routinely each day.

The Roanoke segment has the lowest percentage of recreational trips (51%) and also has the lowest average vehicle occupancy (1.8). The Black Mountains segment has the highest percentage of recreational trips (95%) and is tied for the highest average vehicle occupancy (2.4). Although the data for the Asheville segment was collected in combination with the Black Mountains segment, the location of the roadside survey (at milepost 360) was far north of the Asheville urban area, between Craggy Gardens and Mount Mitchell. It is believed the parkway east of Asheville has a higher percentage of commuter and other nonrecreational traffic.

Monthly recreational visitation is estimated by the National Park Service. Entered traffic volumes collected at permanent counter locations by the National Park Service are converted to recreational visitation using a standard vehicle occupancy value based on the month of the year. Visitation is measured in person trips, which is the product of the average vehicle occupancy and the traffic volume. An estimate of nonrecreational trips is removed from the overall visitation to

obtain recreational visitation. The annual recreation visitation totals from each of the last 30 years is shown in figure 23 (NPS n.d.b.) Visitation reached an all-time high in 2002, but has dropped in the years since, with 2009 visitation dropping back to values last seen in the mid-1980s and the first half of the 1990s. The high season for travel along the parkway is generally between May and October, with peaks for the summer travel season and in October for the viewing of the fall leaves.

Figure 24 illustrates the variation in monthly visitation for 2002, when the data collection program was conducted, and 2009 (NPS n.d.b.) The overall seasonal pattern of visitation through the year has remained similar since 2002.

Updated ramp counts of the traffic volumes entering the parkway were obtained through the end of 2009 for eight locations. Volumes from 2009 were lower than those collected in 2002 at most of the locations, which is consistent with the trend in overall Park visitation (NPS n.d.b.)

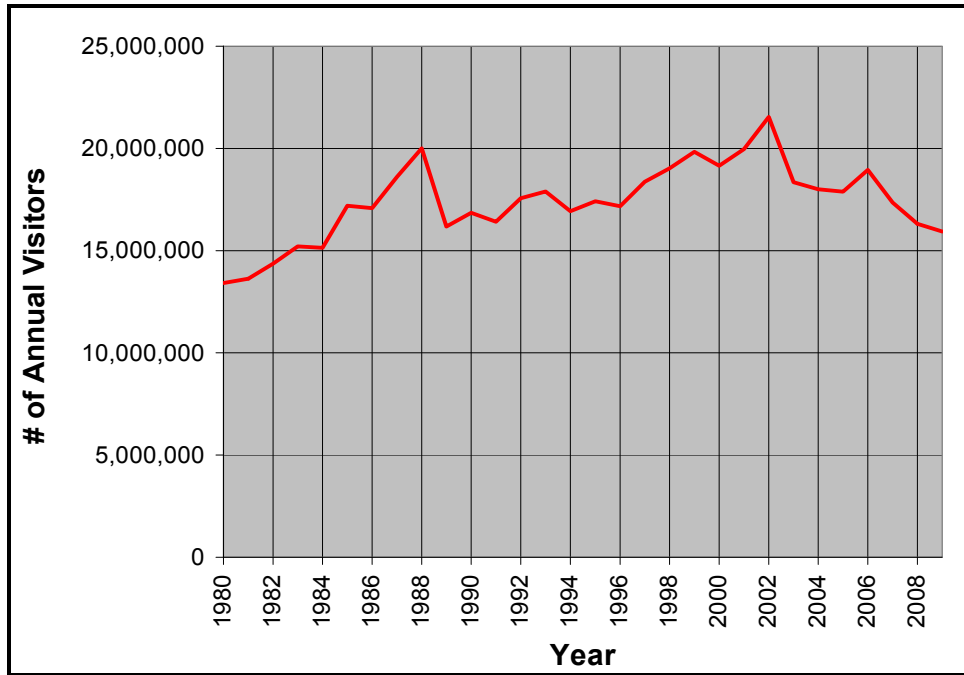
Given that parkway-wide visitation figures have decreased, it is reasonable to assume that current volumes are generally no higher than they were in 2002. For these reasons, the 2002 traffic volumes were used for the existing conditions traffic analyses and assessment as a recent “worst-case” peak condition.

**TABLE 42. TOP FIVE REPORTED TRIP PURPOSES (AUGUST 2002)**

Study Segment	Milepost	Outdoor Recreation	Commuter	Travel for Work	Personal Business	Dining
Ridge	92	71%	8%	7%	8%	2%
Roanoke	160	51%	10%	6%	19%	11%
Plateau	189.5	64%	6%	5%	12%	10%
Highlands	236	80%	8%	3%	7%	2%
Black Mountains and Asheville	360	95%	2%	0%	1%	2%
Pisgah	404	84%	4%	2%	2%	7%

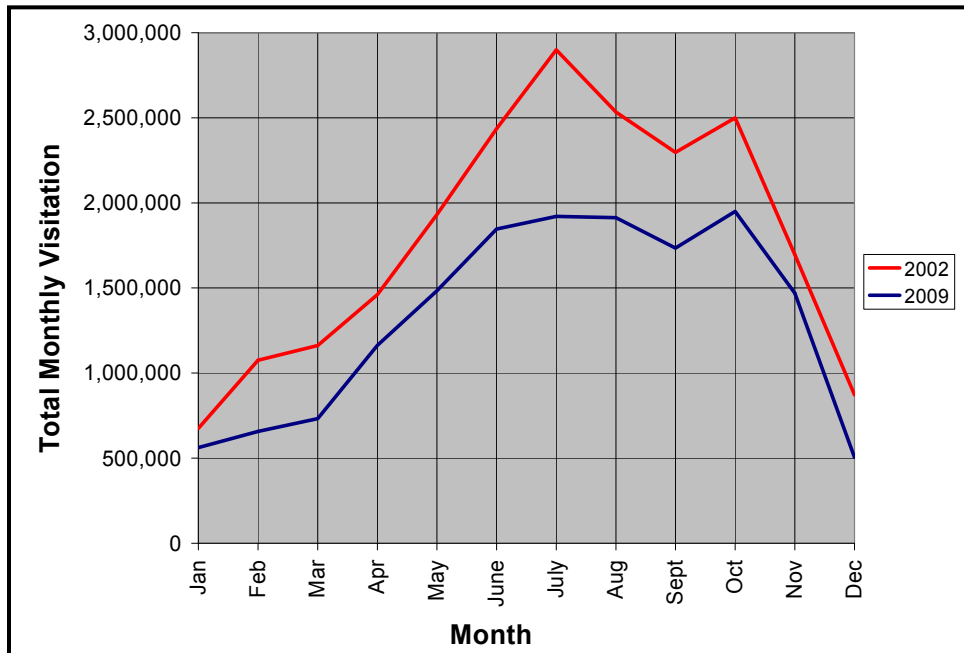
Source: Data collection by DEA in August 2002.

**FIGURE 23. ANNUAL RECREATION VISITORS AT BLUE RIDGE PARKWAY**



Source: National Park Service.

**FIGURE 24. VARIATION IN SEASONAL VISITATION**



Source: National Park Service.

## LEVEL OF SERVICE

Level of service is defined by the *Highway Capacity Manual 2000* (Transportation Research Board (TRB) 2000) as a measure of the ability of an intersection or roadway segment to accommodate traffic volumes. Level of service values range from A, which indicates free-flow conditions with minimal delay, to level of service F, which indicates congested conditions with extremely long delays. Figure 25 illustrates the characteristics of the level of service values (TRB 2000) and the numerical values for intersection level of service. Figure 26 provides similar information for road segment level of service for class II facilities, which are defined as roadways that serve as scenic or recreational route (TRB 2000).

Table 43 summarizes the existing levels of service for road segments at six locations in the parkway during an average peak season weekday or weekend (DEA 2004).

**TABLE 43. BLUE RIDGE PARKWAY EXISTING LEVEL OF SERVICE FOR ROAD SEGMENTS**

Study Segment	Milepost	Peak Hour Level of Service (August 2002)	
		Weekday	Weekend
Ridge	107	B	B
Roanoke	127	A	A
Plateau	189.5	A	B
Highlands	286	B	B
Black Mountain and Asheville	378	A	B
Pisgah	397	A	B

Source: Transportation System Data Analysis—Blue Ridge Parkway (DEA September 2004).

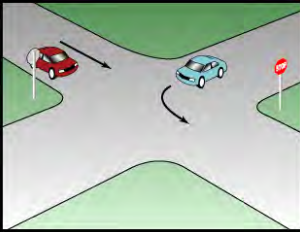
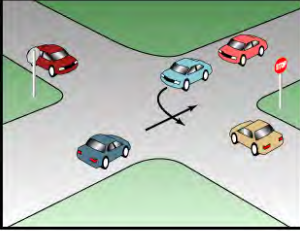
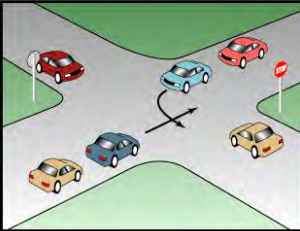
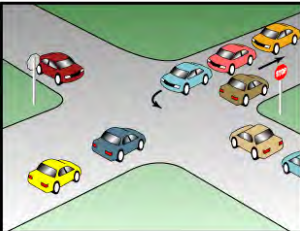
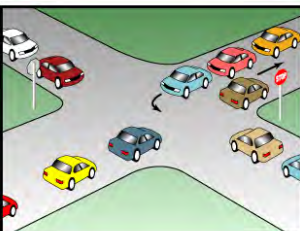
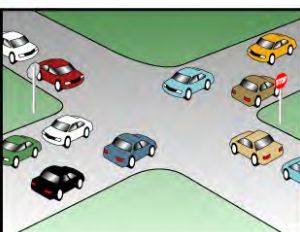
A visitor use and carrying capacity study was conducted in August 2002 and documented in the *Visitor Survey Study Completion Report for the Blue Ridge Parkway* (December 2002) to determine the visitor acceptability of different level of service traffic conditions along the parkway during a typical summer weekend. Visitors were shown a series of photographs depicting different amounts of traffic along a typical section of the parkway. Each photograph was associated with a level of service rating as defined by the *Highway Capacity Manual 2000* (TRB 2000). The results indicate that any operation at or below level of service C is unacceptable for parkway visitor experience (DEA 2004). Level of service A was “very acceptable” and levels E and F were “very unacceptable.” None of the road segments analyzed along the parkway operate at an unacceptable level during the average peak season.

Intersection level of service was analyzed at 21 intersections throughout the corridor (DEA 2004). Only one intersection operated at an unacceptable level of service for visitors. This was at the southern intersection of the U.S. 74 access to the parkway in the Asheville segment (milepost 384.7). The intersection operates at level of service C, with average delays of over 15 seconds in the AM peak hour and 20 seconds in the PM peak hour.

The “Visitor Use and Experience” section includes a discussion of crowding in recreation areas and its impacts on travelers.









**FIGURE 25. UNSIGNALIZED INTERSECTION LEVELS OF SERVICE**

Level of Service	Average Control Delay (sec/veh)	Illustration
A	0 – 10	
B	> 10 – 15	
C	> 15 – 25	
D	>25 – 35	
E	> 35 – 50	
F	> 50	

Source: *Highway Capacity Manual 2000* (TRB 2000), with illustrations by DEA.

**FIGURE 26. TWO-LANE HIGHWAY (CLASS II) LEVELS OF SERVICE**

Level of Service	Description	
A	The highest quality of traffic service, when motorists are able to travel at their desired speed. Passing demand is well below passing capacity and platoons of three or more vehicles are rare. Drivers are delayed no more than 40% of their travel time by slow moving vehicles.	
B	The demand for passing to maintain desired speeds becomes significant and approximates the passing capacity at the lower boundary of level of service B. Motorists will not be delayed in platoons for more than 55% of their travel time.	
C	Traffic flow increases with noticeable increases in platoon formation and platoon size. Although traffic flow is stable, it is susceptible to congestion due to turning traffic and slow-moving vehicles. Time-spent-following may reach 70%.	
D	Unstable traffic flow with mean platoon sizes of 5 to 10 vehicles. Turning vehicles and roadside distractions cause major shock waves in the traffic stream. Motorists are delayed in platoons for up to 85% of their travel time.	
E	The highest volume attainable under level of service E defines the capacity of the highway. Platooning becomes intense as slower vehicles or other interruptions are encountered. Traffic flow conditions have a percent-time-spent-following greater than 85%.	
F	Heavily congested traffic flow with demand exceeding capacity. Operating conditions are unstable and difficult to predict.	

Source: *Highway Capacity Manual 2000* (TRB 2000), with illustrations by DEA.

## TRAFFIC MIX

Traffic mix, also known as vehicle classification, refers to the amount of different types of vehicles traveling along the parkway, including bicycles, motorcycles, automobiles, and RVs. Table 44 summarizes the traffic mix collected for the different parkway segments in August 2002. The highest RV classification volumes are on weekends in the Highlands segment (DEA 2002).

The next-largest percentage of vehicle types is bikes/motorcycles, with bicycles representing about 1% of the traffic volumes. The “Visitor Use and Experience” section includes discussion of bicyclist experience along the parkway. At 4% of the overall traffic volume, motorcycle use is much higher than the general motorcycle proportion (DEA 2002). According to the U.S. Department of Transportation’s Bureau of Transportation

Statistics, motorcycles account for 1.9% of the vehicle total in the country as a whole, with a lower proportion in Virginia (1.0%) (USDOT 2000a) and North Carolina (1.3%) (USDOT 2000b). The parkway appeals to motorcyclists because of the numerous curves, overlooks, attractive scenery, and relatively low overall traffic volumes (Motorcycle 2005). The percentage of traffic that is motorcycles is appreciably higher on weekends than on weekdays, indicating that many of these motorcyclists are local weekend visitors. The percentage varies from as low as 1% on a weekday in the Highlands segment to as high as 8% on a weekend in the Black Mountains segment (DEA 2002).

Other types of vehicles, including buses, account for 1% or less of the daily traffic volume (DEA 2002). No commercial truck traffic is allowed on the parkway.

**TABLE 44. EXISTING BLUE RIDGE PARKWAY TRAFFIC MIX**

Study Segment	Milepost	Weekday			Weekend		
		Cars	RVs <sup>1</sup>	Bike / Motorcycle	Cars	RVs <sup>1</sup>	Bike / Motorcycle
Ridge	92	80%	18%	2%	79%	16%	5%
Plateau	160	80%	15%	5%	80%	11%	9%
Plateau	189.5	77%	20%	3%	79%	17%	4%
Highlands	236	82%	17%	1%	82%	16%	2%
Black Mountain and Asheville	360	82%	12%	6%	79%	12%	9%
Pisgah	404	83%	11%	6%	80%	13%	7%
Average		81%	15%	4%	80%	14%	6%

Source: Data collection by DEA in August 2002.

<sup>1</sup> Classification includes RVs, vehicles with trailers and single-unit trucks.

## TRAFFIC SAFETY CONDITIONS

Traffic-related safety refers to the safe movement of travelers in the parkway, including drivers and bicyclists. Designing for roadway safety considers that vehicles have adequate sight distance at corners, intersections, and parking areas; minimizes the possibility for conflicts between motorized vehicles, pedestrians, and bicyclists; and allows for vehicles to easily stay in their travel lanes. The “Visitor Use and Experience” section includes discussion related to visitor security and personal property.

Accident rates for the overall parkway and each study segment for the period from March 2001 to March 2004 were very low as compared to the Virginia and North Carolina statewide average accident rate for two-lane undivided roadways, as shown in table 45. The accident rates are reported in accidents per million vehicle miles (RMVM).

**TABLE 45. BLUE RIDGE PARKWAY AND STATEWIDE ACCIDENT RATES**

Roadway	Accident Rate (RMVM)
Blue Ridge Parkway <sup>1</sup>	0.24
NC Rural State Routes – 2 lane undivided <sup>2</sup>	1.91
VA Primary Routes <sup>3</sup>	1.62

Source: Transportation System Data Analysis—Blue Ridge Parkway (DEA September 2004), North Carolina Department of Transportation and Virginia Department of Transportation.

<sup>1</sup> March 2001–March 2004.

<sup>2</sup> January 2003–December 2005 Three-Year Crash Rates.

<sup>3</sup> Year 2004 Crash Summary.

The accident rates in each study segment are shown in table 46. The highest accident rate is in the Roanoke segment and the lowest is in the Highlands segment (DEA 2004).

**TABLE 46. ACCIDENT RATES BY STUDY SEGMENT (MARCH 2001–MARCH 2004)**

Segment	Accident Rate (RMVM)
Ridge	0.25
Roanoke	0.91
Plateau	0.38
Highlands	0.08
Black Mountains	0.18
Asheville	0.35
Pisgah	0.25

Source: Transportation System Data Analysis—Blue Ridge Parkway (DEA September 2004).

Table 47 shows a summary of the severity, contributing factors, and vehicle types involved in the accidents along the parkway road. The accident analysis showed relatively few accidents that are considered correctable with geometric design modifications. Of the 534 total accidents in the NPS database, over 80% of them can be attributed to deer or involved motorcycles (DEA 2004). The Pisgah and Black Mountains segments had the greatest percentage of motorcycle-involved accidents, whereas a majority of the deer-related accidents occurred in the northern three segments of the parkway. Over 50% of the accidents in the Black Mountains segment were injury accidents. The majority of the accidents in the other segments were less severe and involved property damage only.

In general, most motorcycle accidents occurred in the southern portions of the parkway where the roadway geometry is more varied and most of the deer-related accidents occurred in the northern portions where the topography and land use creates more wildlife crossings. The most common area for deer-related accidents is near Roanoke between milepost 104 and milepost 128. Over 70% of the accidents in this 24-mile section were deer-related (DEA 2004).

**TABLE 47. BLUE RIDGE PARKWAY ACCIDENT SUMMARY (MARCH 2001–MARCH 2004)**

Segment	Total	Severity			Vehicle Type <sup>2</sup>		Contributing Factor		
		Fatal	Injury	PDO <sup>1</sup>	Motorcycle	Car/RV	Deer	DUI <sup>1</sup>	Other
Ridge	148	0	22	126	42	87	97	1	50
Roanoke	77	0	6	71	7	65	60	2	15
Plateau	102	0	16	86	21	69	71	0	31
Highlands	62	2	12	48	14	46	16	3	46
Black Mountains	47	1	25	21	30	16	4	0	43
Asheville	30	0	4	26	5	25	7	0	23
Pisgah	68	0	26	42	56	12	1	0	67
Totals	534	3	111	420	175	320	256	6	272

Source: Park accident database, compiled by DEA.

<sup>1</sup> PDO = Property Damage Only, DUI = Accidents which involved a citation for Driving Under the Influence.

<sup>2</sup> Vehicle type summary does not include nonreported deer accidents because vehicle data is not known.

Safety concerns noted by park staff include the enforcement of speed limits, the placement of warning signs, and issues related to hazardous weather conditions (DEA 2004). Two relatively recent safety initiatives along the parkway have been deemed successful. One is a major signing program where locations with a specific problem, such as a descending spiral curve into a tunnel, have been signed with several large warning signs with word and symbol legends. This has reduced the number of accidents at those specific problem areas. The other program was developed when park law enforcement staff noticed a majority of the accidents occurred during the weekends of the summer months, with the heaviest visitor usage of the parkway. That program requires that every law enforcement staff on duty during these times must be on traffic patrol. It is believed the increased visibility of the park law enforcement staff has helped to decrease accident rates due to overall speed reduction (DEA 2004).

Emergency access is another important traffic-related safety issue. There are many inclement weather closure gates along the parkway. If a section of the parkway is closed, then an emergency vehicle may have to take a more time-consuming route than normal to get between private residences and hospitals. Congestion near recreation areas or at specific access points are other issues that may impact emergency response times.

## PARKING CONDITIONS

Parking conditions refer to the balance between parking supply and demand. Parking lot data, including the number of occupied spaces, vehicle classification, and any illegally parked vehicles, was collected at 11 high-activity locations along the parkway in 2002. The “Visitor Use and Experience” section discusses the resulting impact on travelers from crowding conditions in parking lots at recreation areas. Table 48 provides a summary of parking conditions collected in August 2002 (DEA 2004).

At the majority of the recreation areas, weekday parking was not found to be a problem. The maximum percent of weekday occupied spaces ranged from 15% to 80%. The highest occupancy of 80% was at the Graveyard Fields Overlook (milepost 418.8) in the Pisgah segment, which also had the highest number of illegally parked cars (DEA 2002).

Traffic volumes were obtained on both weekdays and weekends for the access roads to the recreation areas. Using the ratio of the weekend and weekday volumes, the weekend occupancy percentages were estimated. When occupancy of greater than 100% is shown, it indicates a combination of illegal parking and vehicles that drive in and depart without finding a parking space. Both of these situations indicate demand for increased parking supply. The highest occupancy rates

were at the Graveyard Fields Overlook, the Moses H. Cone Memorial Park in the Highlands segment, and the Linville Falls recreation area in the Black Mountains segment (DEA 2002).

In addition to overloaded parking lots at popular parkway recreation areas, there are also problems with illegal roadside parking in areas where parking lots do not exist. This is a particular problem in the Asheville segment.

**ALTERNATIVE TRANSPORTATION MODES**

No bus or shuttle systems currently operate along the parkway. While tour buses and shuttles are not banned, they do not

commonly travel on the parkway. The physical attributes of the parkway, including relatively narrow 10-foot wide lanes, numerous tunnels, long uphill grades, and lack of adequate parking and restroom facilities at parkway recreation areas discourage transit service. The driving experience is the primary parkway attraction, rather than specific trip destinations, which limits demand for transit service. Research did not find any commercial tour operators that include travel on the parkway as part of their tours. Educational bus tours that travel along the parkway include one for students and faculty run by the Appalachian State University in Boone (Appalachian 2008) and one for new faculty members run by the University of North Carolina in Chapel Hill (BRN 2008).

**TABLE 48. EXISTING BLUE RIDGE PARKWAY PARKING LOT DATA**

Segment	Location	Parking Spaces	Weekday		Weekend <sup>1</sup>
			Maximum Percent Occupied	Maximum Illegally Parked	Maximum Percent Occupied
Ridge	Peaks of Otter Recreation Area	29	55%	2	89%
Plateau	Rocky Knob Recreation Area	35	20%	2	67%
	Cumberland Knob Recreation Area	55	18%	1	67%
Highlands	Moses H. Cone Memorial Park	45	58%	1	121%
	Julian Price Recreation Area	221	17%	1	64%
Black Mountains	Linn Cove Viaduct Visitor Center	40	28%	0	58%
	Linville Falls Recreation Area	85	44%	1	101%
Asheville	Folk Art Center	150	24%	0	42%
Pisgah	Looking Glass Rock Overlook	30	20%	0	35%
	Graveyard Fields Overlook	30	80%	12	163%
	Waterrock Knob Visitor Center	110	15%	0	40%

Source: Transportation System Data Analysis—Blue Ridge Parkway (DEA September 2004).

<sup>1</sup>Weekend percent occupied = (weekend/weekday daily volume)\*(weekday max percent occupied)

## **PARK OPERATIONS AND FACILITIES**

### **PARK ORGANIZATION**

Beginning in Virginia at Rockfish Gap, at the southern end of Skyline Drive in Shenandoah National Park, the Blue Ridge Parkway runs for 469 miles through the southern Appalachian Mountains and ends at highway NC 441 beside the Oconaluftee River, at the entrance to the Great Smoky Mountains National Park in North Carolina. It winds along the Blue Ridge for 355 miles, across forested mountain slopes and settled agricultural valleys and plateaus and then rises into some of the most rugged mountains east of the Mississippi, including the Black Mountains, Great Craggies, Pisgah Ledge, Great Balsam, and Plott Balsam ranges.

The parkway right-of-way averages 825 feet in width with the total acreage of the parkway at 93,792. The principal components of the parkway are the roadway with its supporting structures and constructed landforms, a scenic corridor provided by a broad right-of-way, a chain of seventeen recreation areas, and a variety of exhibits and signs interpreting the natural and cultural histories of the region. Construction of the parkway began in 1935.

The Blue Ridge Parkway is one of four parkways administered by the National Park Service. As a linear resource it represents management challenges not found in other NPS units. In order to manage this linear resource, the parkway has been broken down into four districts with maintenance and law enforcement offices assigned to each. The four law enforcement districts are the Ridge, Plateau, Highlands, and Pisgah. However, as outlined previously, for the purposes of this general management plan, the parkway has been divided into seven segments that have been designated for the planning effort.

The parkway is administered by a superintendent with headquarters in Asheville, North Carolina. Management of the parkway is organized into the following functions: Office of the Superintendent,

Resource Interpretation and Education, Law Enforcement Security and Emergency Services, Maintenance and Engineering, Resource Management and Science, and Business Administration.

### **STAFFING**

The parkway had a budget of \$15,777,785 in 2011. Parkway staffing continues to decrease as the parkway operates within its current budget. In 2011, 75 of 237 positions were vacant. Staffing is pressed to meet current demands, such as deferred maintenance needs, increases in educational opportunities and outreach to school groups, better enforcement along the parkway, fire management and trail maintenance needs, coordination of volunteers, managing resource impacts and impacts of exotic species, the need for general inventorying and monitoring of park resources, and pressures on the parkway from surrounding development. In 2008, the Blue Ridge Parkway Foundation estimated that to fully replace lost staff the parkway would require an operating increase of approximately \$4 million.

### **PARK OPERATIONS**

#### **Law Enforcement Security and Emergency Services**

This program includes visitor safety, emergency services, search and rescue, and wildland fire suppression. Current staffing of 35 FTEs is used to provide for law enforcement and resource protection. A large portion of law enforcement staff time is spent in patrolling the parkway road. Traffic enforcement is a key component of operations because of the number of vehicles using the road. In 2009, there were 354 accidents, over 1,600 traffic violations and 221 emergency medical services calls. To effectively address increasing law enforcement workloads, parkway law enforcement staff cooperates

with federal and local agencies in the management of the parkway's 1,600-mile-long boundary. The parkway is adjacent to three urban areas whose growing incidents effect enforcement along the road and in developed areas. Current staffing levels allow for road patrol of 60-mile long segments of road per law enforcement staff with response times to incidents at 30 to 45 minutes in many locations. There is limited night patrol. An increased focus on visitor protection detracts from resource protection responsibilities. Resource protection efforts include addressing issues such as illegal plant harvesting of species such as ginseng, black cohosh, and galax and wildlife-visitor interactions. Dispatch and radio technicians provide support dispatch services parkwide for law enforcement and emergency services.

**Fee Management.** There are no entrance fees for traveling the parkway. The only fees collected along the parkway pertain to the designated camping areas. Fee management is responsible for the collection and accounting of all fees.

### **Resource Interpretation and Education**

Resource Interpretation and Education is responsible for educating and instilling in visitors an understanding, appreciation, and enjoyment of the significance of the parkway and to ensure the protection and enjoyment of park resources. This includes educating visitors, stakeholders, and the general public about parkway resources, including the natural and culture resources of the Appalachian mountain region; scenic values; scientific opportunities; and the role of the parkway in local, regional, and national contexts. National Park Service staff fulfills these responsibilities through formal education and orientation programs, interpretive programs, curriculum-based educational programs, and interpretive media. Personal services include staffing of the various visitor contact stations, law enforcement- and volunteer-led walks, talks and evening programs, demonstrations and

special events, and informal contacts with visitors. This division is also responsible for supervision of publications and other materials available at bookstores and sales outlets, exhibits and audiovisual media, and website and electronic media.

### **Resource Management and Science**

Staff works in the areas of natural and cultural resource planning, management and compliance, community and land use planning, landscape architecture, computer-aided drafting and geographic information systems, land protection and permit administration in several special use areas, rights-of-way, and leased agricultural land.

Resource management encompasses all activities related to the management, preservation, and protection of the park's cultural and natural resources. Activities include research, restoration efforts, species-specific management programs, wildland fire management, historic structures and site protection, and resource education and information sharing activities. Cultural resource staff manages program areas including prehistoric and historic archeological sites, cultural landscapes, historic structures and sites, ethnographic resources, park museum collection, and archives. Park biologists and wildlife specialists manage natural resource program areas, including rare species and plant communities, exotic plants, large game management, exotic animal species, water resources, soil and geologic resources, hazard and pest management, prescribed burns, encroachment, and geographic information systems (GIS). All park permitting activities are coordinated in this branch/division. Resource management specialists support park compliance activities by conducting field inventory and survey work and preparing sections of documents.

**Planning, Lands, and Compliance.** Planning, landscape architect, and environmental protection staff work with other park program areas to prepare



management documents that shape both parkwide and site-specific plans for resource protection and visitor use, facility and site development and construction, resource preservation, and land protection. Because the parkway interconnects with surrounding communities and has some 4,000 park neighbors, planning operations include management of deed reserved rights for some 4,000 park neighbors, management of scenic easements, and oversight of primary and secondary road improvement projects on park land. Planning and landscape architecture staff work with local communities, county planners, and developers through land use planning to conserve scenery resources. Land realty staff work with the NPS land office and private land trust partners to acquire interests in land to protect scenic, natural and cultural resources, eliminate private at-grade access roads, and to eliminate boundary management issues. Deed reservation matters are addressed by realty specialist and landscape architect staff. Compliance for all park activities is managed through the Planning Environmental and Public Comment (PEPC) program in this branch/division.

### **Business Administration**

Business Administration at the parkway is responsible for ensuring that park operations are consistent with the NPS mission and goals. General administrative duties such as human resources, budget, information technology support, and procurement are handled by these programs. Staff in this functional area are responsible for formulating a long-term strategic vision and communicating this to stakeholders. Management of these functions is particularly complex for the parkway. Although personnel and resources span the parkway's entire length, Business Administration supports all activities largely from headquarters in Asheville. These programs are the backbone of the parkway's management infrastructure. This division is also responsible for employee housing management.

**External Affairs & Partnerships.** The parkway relies on the strength of its External Affairs and Partnerships programs to develop and preserve strong relationships with the public. External Affairs accomplishes this function by keeping the public and key stakeholders informed about current park events and issues, maintaining contacts with media, replying to visitor concerns, and cooperating with the local travel and tourism industry. Adjacent communities work closely with the parkway to contribute support through partnership work.

**Concessions.** The concessions program on the parkway is carried out by the office of Concessions which reports to Business Administration. The office is comprised of two concessions management specialists and is at the parkway headquarters in Asheville, North Carolina. All concessioner services on the parkway are authorized by concessions contracts. There are six concessions providing services for the parkway.

- The Virginia Peaks of Otter Company provides commercial services at Milepost 86. Their gross revenues in 2010 were \$3,398,388, which included the visitor services at Otter Creek.
- Forever/NPC Resorts provides commercial services at Mabry Mill, Doughton Park, Price Lake, and Crabtree Falls (Meadows) with total revenues of \$2,088,648 in 2010.
- The Northwest Trading Post, Inc. provides retail and limited food operations at Milepost 259 and had gross revenues of \$307,338 in 2010.
- Southern Highland Craft Guild: Through a 1976 cooperative agreement, the National Park Service, Appalachian Regional Commission, and Southern Highland Handicraft Guild agreed to construct, operate, and maintain the Folk Art Center on the parkway near Asheville, North Carolina. The 20-year agreement, dated April 5, 1976, stipulated that the arts and crafts program at the Folk Art Center would be carried out by the Guild. The title to the building and improvements are vested in

the United States. Following the expiration of the original agreement, the National Park Service and the Guild entered into a second cooperative agreement to continue the operations of the Folk Art Center. This agreement expired June 8, 2008. In 1998, Congress passed Public Law 105-391, the "National Park Service Concessions Management Improvement Act of 1998," which specified that all commercial activities in national parks be regulated under a concessions contract. The National Park Service developed a three-year, noncompetitive temporary contract with the Guild, which took effect February 1, 2011. During the course of this temporary contract, the National Park Service will solicit bids for operation of the Folk Art Center under a 10-year contract that will be executed upon expiration of the temporary contract. Since 1930, the Guild has been recognized as the region's premier nonprofit craft organization. Second in age only to the Boston Society of Arts and Crafts, the Guild now represents over 900 craftspeople in 293 counties of nine southeastern states. The Guild educates parkway visitors about Appalachian craft traditions through a variety of demonstrations, festivals, exhibits, and programs. Recent data show that the Guild had gross revenues of \$609,627 in 2010 as a result of operating the Parkway Craft Center at the Moses H. Cone Manor House for eight months during the year. They also had revenues of \$1,433,447 in 2010 as a result of providing craft demonstrations and sales at the Allansand Craft Shop at the Folk Art Center in Asheville, North Carolina, which is open year-round.

- Parkway Inn, Inc. doing business as Pisgah Inn and Restaurant, had gross revenues of \$3,116,217 in 2010.

## Maintenance and Engineering

Maintenance and Engineering includes all activities required to manage and operate the daily maintenance of the parkway. These programs provide care and maintenance of campgrounds, buildings, grounds, roads, trails, transportation systems, and utilities. In addition, Maintenance and Engineering takes care of all its related management and administrative support. Almost half of the parkway's annual budget is devoted to maintenance activities.

**Roads Maintenance.** Road operations involve the regular management of roads, bridges, tunnels, and signage by activities such as line striping, minor structural repairs of tunnels, clearing rock fall from the road surface, and snow removal. This program excludes large repairs and improvements such as chip sealing and repaving. The majority of road maintenance work at the parkway is managed and contracted out by the Federal Highway Administration. The amount of road work provided by the Federal Highway Administration varies yearly.

**Transportation Systems and Fleet Operations.** This program provides vehicles for personnel as they perform official park work. The parkway fleet consists of approximately 300 vehicles that are used to travel close to 1.5 million miles annually. This large and heavily used fleet is aging rapidly. An average vehicle used on the parkway currently has seven years of service. Many vehicles have over 100,000 miles. The parkway is considering a conversion of their vehicles from a park-owned fleet to a leased fleet via the Government Services Administration (GSA) leasing program. This would allow for a more current fleet, requiring less maintenance.

**Grounds Maintenance.** Grounds maintenance is the most labor intensive program at the parkway, using approximately 68,000 person hours, or 33.6 FTEs, annually. Mowing and maintaining the parkway requires a large investment in time and money by the division. There are 5,750 acres of

grasslands along the parkway that are regularly maintained. Because the parkway is a designed landscape and must be kept up to design specifications, the challenge of keeping grassy areas manicured is formidable. High-intensity areas including roadsides are mowed on a 7- to 10-day cycle from March to October. Open field areas are maintained once a year during either October or November. Most maintenance staff are involved in mowing operations during the summer months. Hazardous tree removal is another consideration for grounds maintenance operations. Tree maintenance is ongoing work necessary to keep the roadway and trails open; the majority of the work is accomplished in the winter and early spring months after seasonal storms.

**Utility Operations.** Utility Operations is responsible for monitoring systems for water, sewer, electric, heating, and cooling. The parkway currently maintains 45 individual potable water treatment systems, 94 wastewater treatment units, and 118 HVAC systems. There are also three solar power units, two of which support visitor services areas. Many of these systems have exceeded their maximum effective life of 15 years, therefore creating greater operational costs.

**Trails Maintenance.** The Trails Maintenance program primarily involves the repair, rehabilitation, and cyclic maintenance of front and backcountry trails in the park. This includes work on retaining walls, signs, and trail surfaces to ensure visitor safety and to protect parkway resources. Because base funding for trail maintenance is severely limited, work for this program occurs only in fiscal years when the parkway is successful in competing for cyclic trail funding.

## **PARK FACILITIES**

The Park Facility Management System for the National Park Service and Blue Ridge Parkway lists almost 3,000 assets. The following table was generated from the NPS asset management system in 2009.

Table 49 shows that there are, among other assets, over 400 buildings, 93 wastewater systems, 29 dams, 132 trail bridges, and 176 road bridges. Close to 40% of the parkway's total available funds is currently spent on park facilities annually.

Facility Management within Maintenance and Engineering is responsible for the operation and maintenance of all park facilities and equipment, including buildings and maintained grounds; utility systems such as power, water, sewer, and solid waste management; employee housing; roads; parking areas and trailheads; trails; picnic areas; and telephones. Maintenance and Engineering is responsible for routine maintenance on the parkway vehicle fleet.

## **Public Facilities**

### **Trails and Trailheads, and Trail**

**Shelters.** There are over 120 trails along the parkway; most of these are in recreation areas but some are along wide stretches of the right-of-way. The trails vary in length. Some offer short easy walks to an attraction or exhibit close-by, while others provide the challenge of a strenuous hike across the mountains. Some connect to long distance trails through the national forests, including the Appalachian Trail in Virginia and the Mountains-to-Sea Trail in North Carolina. Some trails follow paths that existed before the parkway was built and at Moses H. Cone Memorial Park the trails follow carriage roads laid out around the turn of the twentieth century. But most trails were designed and constructed as part of the parkway designed landscape; the oldest of these are in the four recreation areas developed before World War II. Shelters are found beside trails in some recreation areas. These are intended to provide places to rest and picnic but, unlike the shelters on the Appalachian Trail, they are not intended to provide overnight refuges. Since the parkway's inception, "leg stretcher" trails have provided motorists with a short scenic walk and a break from driving.

**TABLE 49. BLUE RIDGE PARKWAY FACILITY-RELATED ASSETS**

Asset Type	RIDGE	PLATEAU	HIGHLANDS	PISGAH	Total
Roads	54	51	53	75	233
Parking	88	58	67	151	364
Road Bridges	26	57	53	40	176
Road Tunnels	1	0	0	25	26
Trails	35	16	36	46	133
Trail Bridges	34	23	56	19	132
Picnic Areas	3	3	3	5	14
Campgrounds	3	2	3	3	11
Backcountry Campgrounds	0	1	1	0	2
Visitor Center Grounds	3	2	3	6	14
Vistas	226	66	140	479	911
Other Grounds	3	11	9	14	37
Buildings	79	118	99	126	422
Houses	4	8	7	8	27
Water Systems	9	12	11	12	44
Wastewater Systems	12	21	36	24	93
Radio Tower Sites	2	3	2	3	10
Dams	2	12	12	3	29
Special Historic Facilities	6	1	1	0	8
Amphitheaters	2	2	2	3	9
Concession Areas	2	2	3	2	9
<b>Total</b>	594	469	597	1044	2704

As the parkway expanded, backcountry trails were added, along with a trail system at Julian Price Memorial Park and a carriage trail system at the Cone Estate. However, upkeep on the 350 miles of trails has steadily declined over the years due to funding constraints and a priority shift by the parkway to support the most critical operational needs. In recent years, the parkway and its partners have been creative in addressing this problem. A number of groups have mobilized their volunteers for trail maintenance and construction.

In 2000, the Adopt-a-Trail program was started by the FRIENDS of the Blue Ridge Parkway to recruit and train organizations and individual volunteers to repair and maintain parkway trails. Currently, 22 sections of trails are adopted, covering 65 miles. Additional work is provided by groups such as the Carolina Mountain Club whose members maintain over 130 miles of parkway trails. The parkway continues to refine its trails

stewardship program in order to improve the quality of its trail systems.

**Park Roads.** In addition to the main parkway of 469 miles, the parkway also maintains 17 miles of paved roads and 67 miles of unpaved roads. The maintenance of these ancillary assets is essential to the operations of the parkway. They provide access to the parkway road and to other facilities along the parkway. There are a number of structures along the parkway, including 26 tunnels, retaining walls, bridges, viaducts, parking areas, “widenings,” and overlooks. In Virginia, 57 of the parking areas, widenings, and overlooks are maintained as hunter parking and access; while there are 51 of these hunter-associated locations in North Carolina. There are 265 overlooks that allow for parking and taking advantage of the vistas off the parkway. Combined there are at least 300 locations along the main route that provide access points to the parkway via underpasses and overpasses as well as at-grade crossings.

Deferred maintenance for all overlooks and developed area parking is currently listed at \$21 million.

**Visitor Centers.** There are 14 visitor contact facilities along the parkway from north to south. They are at Humpback Rocks (milepost 5.8); James River and Otter Creek (milepost 60–63); Peaks of Otter (milepost 86); Roanoke (milepost 106–120); Rocky Knob and Mabry Mill (milepost 167–176); Blue Ridge Music Center (milepost 215); Doughton Park (milepost 240); Moses H. Cone and Julian Price Parks (milepost 295–298); Linville Falls (milepost 317); Museum of North Carolina Minerals (milepost 331); Crabtree Falls (milepost 349); Mount Mitchell State Park and Craggy Gardens (milepost 355–364); Asheville (milepost 382–393); Mt. Pisgah (milepost 408); and Waterrock Knob (milepost 451).

**Camping.** There are nine campgrounds along the parkway. They are at Otter Creek (milepost 60.9); Peaks of Otter (milepost 86); Roanoke Mountain (milepost 120.4); Rocky Knob (milepost 169); Doughton Park (milepost 241.1); Price Park (milepost 297.1); Linville Falls (milepost 316.4); Crabtree Falls (milepost 339.5); and Mt. Pisgah (milepost 408.6). All of the campgrounds offer facilities that include restrooms, drinking water, picnic tables, and grills. Interpretive programs are offered at the various campgrounds when they are open from May through October. Wheelchair accessible sites are available in most campgrounds.

**Recreation Areas.** There are 17 recreation areas along the parkway road; 8 in Virginia and 9 in North Carolina, where recreational facilities invite motorists to stop for a few hours or days before resuming their tour. Two state parks are also directly linked to the parkway. The development of recreation areas was an integral part of the project from its beginnings. Most of the recreation areas, however, are substantial tracts of land and in some cases incorporate several thousand acres.

## Administrative Facilities

**Offices, Storage, and Parkway Buildings.** All park offices and storage and general use buildings are within park boundaries. The maintenance division is dedicated to prolonging the life and improving the interior and exterior condition of the more than 300 buildings along the parkway. Of particular importance to the public are the 90 historic structures and 85 visitor use buildings. In total, the parkway has 325,000 square feet of building space to maintain. Activities include the repair of roofs, siding, windows, and masonry structures; painting and staining the interior and exterior of buildings; maintenance of electrical and heating, ventilating, and air-conditioning (HVAC) systems; sewer/septic systems; potable water systems; and routine maintenance of designed landscape areas.

**Parkway Housing.** There are 33 structures maintained as residences along the parkway. They exist at the Love Maintenance Area (milepost 16.0), Whetstone Ridge (milepost 29.0), James River Maintenance Area (milepost 66.3), Peaks of Otter Maintenance Area (milepost 85.2), Roanoke Maintenance Area (milepost 112.0), Rocky Knob Maintenance Area (milepost 167.1), Virginia Route 778 Crossing (milepost 199.9), Bluffs Maintenance Area (milepost 245.5), Moses H. Cone Manor House (milepost 294.0), U.S. 221 Access Road (milepost 294.6), Flannery Fork and Shulls Mill Roads (milepost 294.7), Price Campground (milepost 296.9), Asheville Maintenance Area (milepost 316.4), Balsam Gap Maintenance Area (milepost 442.8), and Soco Gap Maintenance Area (milepost 455.5).

**Other Buildings.** Maintenance areas are provided at Love (milepost 16.0), Montebello (milepost 29.0), James River (milepost 66.3), Peaks of Otter (milepost 85.2), Roanoke (milepost 112.0), Rocky Knob (milepost 167.1), Fancy Gap (milepost 199.1), Cumberland Knob (milepost 217.3), Bluffs (milepost 245.5), Bengé (milepost 267.6), Sandy Flats (milepost 294.6), Linville Falls (milepost 316.4), Gillespie Gap (milepost 330.9), Wagon Road Gap (milepost 411.8),

Balsam Gap (milepost 442.8), and Soco Gap (milepost 455.5).

District law enforcement offices are maintained at Montebello (milepost 29.0), James River (milepost 66.3), Peaks of Otter (milepost 85.9), Roanoke (milepost 112), Rocky Knob (milepost 167.1), Fancy Gap (milepost 199.1), Bluffs (milepost 245.5), Sandy Flats (milepost 294.6), Gillespie Gap (milepost 330.9), Oteen (milepost 382.2), Asheville (milepost 382.3), and Balsam Gap (milepost 442.8). Dispatch operations occur at the Park Central Communications Center located in Asheville, North Carolina.

### **PARKWAY PARTNERSHIPS**

The Blue Ridge Parkway has entered into a number of innovative partnerships in its effort to surmount the enormous challenge of preserving and protecting the entire length of the parkway. Numerous organizations are under formal agreement, including three that have each shared more than 50 years with the parkway. Partners are relied on to provide services, staffing, and even funds for construction of facilities where parkway resources are insufficient.

Additional partnerships are maintained with neighboring jurisdictions; county, state, and federal land managing agencies. Law enforcement staff work with 29 county emergency management services and police entities, as well as two national forests. parkway staff work with academic institutions to conduct parkway-wide research. The Parks-as-Classrooms program, a national initiative designed to instill values of protection and appreciation for park resources, reaches over 42,000 students a year, thanks in part to partner support. The continued success of these partnerships relies on the shared dedication of all interested groups to maintain the integrity of the parkway. From countless partner hours to a dedicated cadre of volunteers, the parkway partnerships are a blueprint for what can go right with long-term community involvement.

### **Blue Ridge National Heritage Area**

Designated by Congress in 2003, the Heritage Area serves to protect, preserve, interpret, and develop the unique natural, historical, and cultural resources of 25 Western North Carolina counties and the Qualla Boundary (Cherokee) for the benefit of present and future generations and, in so doing, to stimulate improved economic opportunity in the region. Heritage Area staff and volunteers also have a significant role in providing visitor services at the new Blue Ridge Parkway Visitor Center (milepost 384).

### **Blue Ridge Parkway Association**

For more than 50 years this association of travel businesses and chambers of commerce has provided information about accommodations and visitor services along the entire parkway corridor. Its annual Blue Ridge Parkway Directory, distributed free at parkway visitor centers, contains the most extensive single listing of hotels, attractions, and other travel services in the region.

### **Blue Ridge Parkway Foundation**

The Blue Ridge Parkway Foundation is the primary and professional fundraising organization for the 469-mile Blue Ridge Parkway in western Virginia and North Carolina. The foundation's authority to request and receive funds on behalf of the Blue Ridge Parkway is vested in a cooperative agreement with the National Park Service and Department of Interior. The foundation funds a variety of important parkway programs and projects.

### **FRIENDS of the Blue Ridge Parkway**

FRIENDS of the Blue Ridge Parkway is a nonprofit, volunteer organization that is dedicated to preserving and protecting the Blue Ridge Parkway. For more than two decades, FRIENDS has been true to its mission: Preserve, Promote, and Enhance.

FRIENDS volunteer programs focus on preservation, protection, and education. FRIENDS are actively involved in viewshed protection programs, volunteers in parks, and adopt-a-trail programs.

### **Western Virginia Land Trust**

Western Virginia Land Trust works to preserve the region's unique scenic, historic, agricultural, recreational, and natural features focusing efforts on the 10 Virginia counties of Bedford, Botetourt, Carroll, Craig, Floyd, Franklin, Henry, Montgomery, Patrick, and Roanoke. By educating landowners, elected officials, businesses, and the general public, Western Virginia Land Trust encourages respect for the environment and arranges voluntary conservation easements that protect land forever. Western Virginia Land Trust's educational activities help landowners make informed decisions about how various land conservation options can affect their estate planning, taxes, and the future of their land.

### **The Conservation Trust for North Carolina**

The Conservation Trust for North Carolina is a nonprofit conservation organization. Their mission is to protect North Carolina's land and water through statewide conservation and cooperative work with land trusts to preserve the state's natural resources. The Conservation Trust works directly with landowners, local land trusts, and government agencies to protect land and water resources most important to local communities

throughout the state. One of the trust's most important goals is to work closely with the parkway staff to identify and save key properties that contribute to the scenic views and natural resources of the parkway.

### **Eastern National**

Chartered in 1948, Eastern National is an association operating in more than 130 national parks and other public trusts. Eastern National currently operates educational retail outlets in 30 states, from Maine to the Caribbean. All of the products, programs, and publications offered to visitors have strong educational value and assist the educational programs of the National Park Service. In fact, the profits from Eastern National activities are donated to the National Park Service. Since 1947, Eastern National has donated over \$89 million to the Park Service.

### **The National Council for the Traditional Arts**

For nearly 70 years, the National Council for the Traditional Arts has produced and supported a variety of traditional arts programs in national parks across the United States. By formal agreement with the parkway, the National Council for the Traditional Arts is the Park's partner in developing and operating the Blue Ridge Music Center located at Milepost 213 near Galax, Virginia. The center's mission is to preserve and present the traditional music of the Blue Ridge Mountains.

## REGIONAL SOCIOECONOMICS

### INTRODUCTION

The relationships which today characterize the socioeconomic context of the Blue Ridge Parkway to its immediate neighbors and surrounding region is an evolutionary tale rather than one characterized by one or multiple events occurring in a relatively short period of time. The primary pace for this evolution was set by the construction timetable and eventual completion of the parkway over more than 50 years.

As construction on a particular section of the parkway occurred, it promoted connections to nearby communities that served as staging areas and host communities. As sections were completed and opened to travel, they attracted visitors from the local communities, the surrounding region and further afar, promoting ongoing social and economic connections between the parkway and nearby motels, campgrounds, filling stations, cafes, stores, and other establishments catering to travelers. The direct economic contributions associated with parkway staff, payroll, and maintenance outlays increased as new sections of the parkway opened to travel, although such contributions were substantially smaller than those associated with construction. The parkway gained expanding national and international acclaim as the cumulative length open to travel increased and longer journeys became possible. The final section of the parkway was completed in 1987 and, in 1997, the parkway was recognized as an "All American Road," one of 27 so designated highway routes in the nation.

Parkway construction occurred against a backdrop of large shifts in the economic and cultural landscape of America. These changes include the emergence of automobiles into the mass market, completion of the core of the interstate highway system, and changes in the workplace and employment relationships that increased the amount of leisure time and attendant participation in outdoor pursuits

among the general populace. Together, these changes fostered increased visitation across the entire national park system, including a doubling in annual recreation visitation to the Blue Ridge Parkway from fewer than 10 million visitors in 1967 to more than 20 million in 1987. The rising number of nonlocal visitors generated important economic infusions to the local economies and the Blue Ridge Parkway became a focal point of regional tourism promotion efforts.

### OVERVIEW

The influence area analyzed for economic and social considerations associated with the parkway is the 29-county region through which the parkway passes. The parkway passes through 12 counties in Virginia; from north to south, Augusta, Nelson, Rockbridge, Amherst, Botetourt, Bedford, Roanoke, Franklin, Floyd, Patrick, Carroll, and Grayson counties. Within these counties are eight cities, the most populous being Roanoke and Waynesboro. The parkway passes through 17 counties in North Carolina; from north to south, Surry, Alleghany, Wilkes, Ashe, Watauga, Caldwell, Avery, Burke, Mitchell, McDowell, Yancey, Buncombe, Henderson, Haywood, Transylvania, Jackson, and Swain counties. The larger urban populations are Asheville, Boone, and Blowing Rock.

Within a broader regional context, the parkway is influenced by newer population centers along the I-85 corridor to the southeast, older population centers along the Atlantic Seaboard to the northeast, as well as population centers throughout the Ohio River Valley to the west. The parkway runs parallel to two highly traveled interstate highways, I-85 and I-81, and perpendicular to I-40, I-77, and I-64. These highways allow access to the parkway from some of the most populous metropolitan areas in the United States including Washington, D.C.; Baltimore, Maryland; Atlanta, Georgia; Raleigh-Durham, North Carolina; and Nashville, Tennessee.



These and many other large metropolitan areas are less than a day's drive from a parkway entrance.

## **POPULATION**

The character of the land ranges from rural pastoral to mountainous and forested. The larger cities of Asheville, North Carolina and Roanoke and Waynesboro, Virginia provide a more urban and suburban landscape and numerous smaller towns and communities along the parkway provide a taste of the uniqueness of Appalachian culture. The 29 counties traversed by the parkway have a combined regional population of approximately 1,600,000 people and experienced an increase of approximately 7% in population from 2000 to 2007.

### **North Carolina**

In 2007, the estimated population in North Carolina counties adjacent to the parkway ranged from 226,771 in Buncombe County, North Carolina to 10,915 in Alleghany County, North Carolina. Population in North Carolina counties adjacent to the parkway is projected to increase by nearly 15% by 2030. Most of the population increase in North Carolina would be in the Asheville Metropolitan Area (U.S. Census Bureau, Population Division, 2008).

Asheville, North Carolina, in Buncombe County is the largest metropolitan area along the parkway with a population of 404,320 in 2007. Asheville is also home to parkway headquarters, a visitor center, the Biltmore Estate, and many other tourism attractions

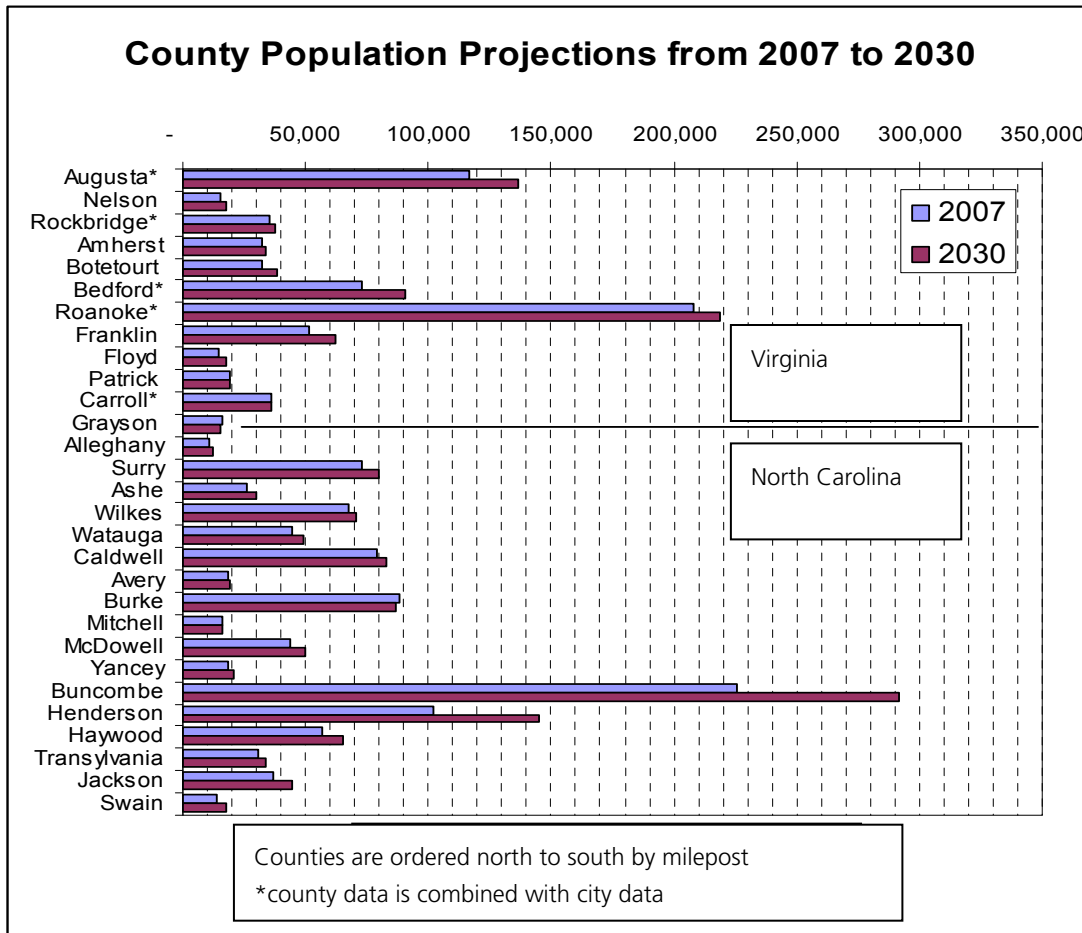
and serves as a prominent staging area for parkway visitors. The metropolitan area, which consists of Buncombe, Henderson, Transylvania, Haywood, and McDowell counties, has been experiencing substantial population growth and economic expansion in recent years, in part due to favorable recognition as a retirement community and other accolades.

Other counties adjacent to the parkway in North Carolina with the highest 2007 populations are Burke at 88,975 and Caldwell at 79,454. Current population projections for the year 2030 anticipate the populations of Buncombe and Henderson counties to increase by 29% and 42%, respectively. This could account for almost half of the net population growth in North Carolina counties along the parkway between 2007 and 2030 (U.S. Census Bureau, Population Division, 2008).

### **Virginia**

The Roanoke Metropolitan Area, with a combined 2007 population of 208,253, includes the county of Roanoke, city of Roanoke, and the city of Salem. It is the second most populated community along the parkway. Other Virginia counties bordering the parkway with relatively large populations include Augusta County, containing the cities of Staunton and Waynesboro, with a combined population of 116,412, and Bedford and Franklin counties, which border Roanoke County on the south, with populations of 66,750 and 51,133, respectively (U.S. Census Bureau, Population Division, 2008).

**FIGURE 27. POPULATION PROJECTIONS FOR COUNTIES AND CITIES DIRECTLY AFFECTED BY THE BLUE RIDGE PARKWAY (U.S. CENSUS BUREAU, 2008; VIRGINIA EMPLOYMENT COMMISSION, 2007; STATE OF NORTH CAROLINA, 2008)**



**Projected Long-term Change in Population along the Parkway Corridor**

Population growth in counties along the parkway is expected predominantly in areas with less urban infrastructure and more undeveloped land. More populous cities, such as Asheville and Roanoke, will likely continue to increase in population density, but not as rapidly as the less developed surrounding counties.

Population trends are directly impacted by the increase in retirees moving to the Blue Ridge Mountains. Asheville and Buncombe, Henderson, Roanoke, and Augusta counties continue to gain population as people retire to those areas. As a result, these areas are expected to continue to attract many tourists

and second home development that impact the parkway.

The growing population along the parkway could have noticeable impacts on the parkway and its resources. Increases in residential or commuter traffic have impacted the parkway and as the area’s population continues to grow, impacts could correspondingly increase, especially around Roanoke and Asheville. Views along the parkway are currently impacted by housing and commercial development along the length of the road and views are expected to continue to be impacted. Subdivisions, associated trail and road connections, and access to nonfederal land are also likely to continue to impact parkway resources as well. Table 50 shows the projected population growth by segment between 2007 and 2030.

**TABLE 50. PROJECTED POPULATION GROWTH, 2007 TO 2030, BY SEGMENT**

Segment/District	2007 Estimated	2030 Projected	Net Change	Percent Change
1 Ridge	303,927	354,926	50,999	17
2 Roanoke	259,386	280,970	21,584	8
3 Plateau	85,527	88,157	2,630	3
4 Highlands	222,119	241,286	19,167	9
5 Black Mountain	264,671	275,663	10,992	4
6 Asheville	327,751	436,283	108,532	33
7 Pisgah	138,493	161,058	22,565	16
Combined	1,601,874	1,838,343	236,469	15

Sources: U.S. Census Bureau, 2009, North Carolina Office of Budget and Management 2008a, and Virginia Workforce Commission 2009.

The growth over the next few decades is expected to translate into higher visitation and demands on parkway facilities and resources, particularly those in close proximity to population centers. Local use would be expected to continue to contribute heavily to late season use during the “fall color season.”

### Demographic Shifts

The average percentage of the U.S. population that is 65 and older is about 12%, which is consistent with the states of Virginia and North Carolina. The average percentage of population 65 and older throughout all the counties adjacent to the parkway is 16% (U.S. Census Bureau, 2008). Beginning in the 1970s, counties adjacent to the parkway have undergone a demographic shift as a result of economic changes. Increasingly, older Americans are moving to counties within the parkway region of the Blue Ridge Mountains. More traditional retirement areas in Florida and California have become more populous and more expensive resulting in new retirement markets. Changes in traditional retirement areas combined with a new, larger, generation of retirees with different interests are leading older Americans to communities near the parkway. Many new migrants were originally tourists in the 1980s and 1990s that enjoyed the scenic beauty and relaxed atmosphere of the Blue Ridge Mountains and have come to enjoy the scenery and beauty the area offers in retirement.

### ECONOMIC TRENDS

Textiles, furniture, and apparel were the dominant industries in many counties along the parkway for the last half of the 20<sup>th</sup> century. Economic activity in the southern Appalachian region shifted from a predominant emphasis on manufacturing and agricultural economies to more service and construction based economies over the past three to four decades. Manufacturing in the region declined dramatically during the 1980s and 1990s, not unlike other areas in the United States. These industries remained in decline through 2001 when a national recession produced a spike of layoffs and unemployment that continued through 2002. The region recovered slowly, transitioning to a service based economy (Lambeth 2006).

Service and construction based employment is growing in counties along the parkway due to the demographic shift mentioned earlier; an influx of seasonal residents and their demand for housing and services. Currently, the population centers of Roanoke, Asheville, and Staunton City are service anchors for the surrounding counties, but population trends show an influx of population in the rural and suburban counties that surround these cities. Service and construction based employment is expected to increase in rural counties due to an increasing population in these areas. Jobs in this sector are expected to increase more rapidly than in more densely populated cities. The parkway is one of many amenities in the region that draws interest in second home development, retirement communities,

tourism, and services within varying distances of a service hub. The parkway functions as a link between rural areas, new development, and more dense service hubs.

## Employment

An indication of the importance of recreation and tourism to the local economies, including that associated with the parkway, is the total number and relative concentration of jobs in arts, entertainment, recreation, accommodations, and food services in each of the 29 counties. The average percentage of employment in these sectors, listed in figure 28, is 9% and the median is 8%. The highest percentage of employment in the aforementioned sectors occurs in Swain County, North Carolina with 19% employment and the lowest percentage is Bedford County, Virginia with 2% employment in those sectors (BEA 2008).

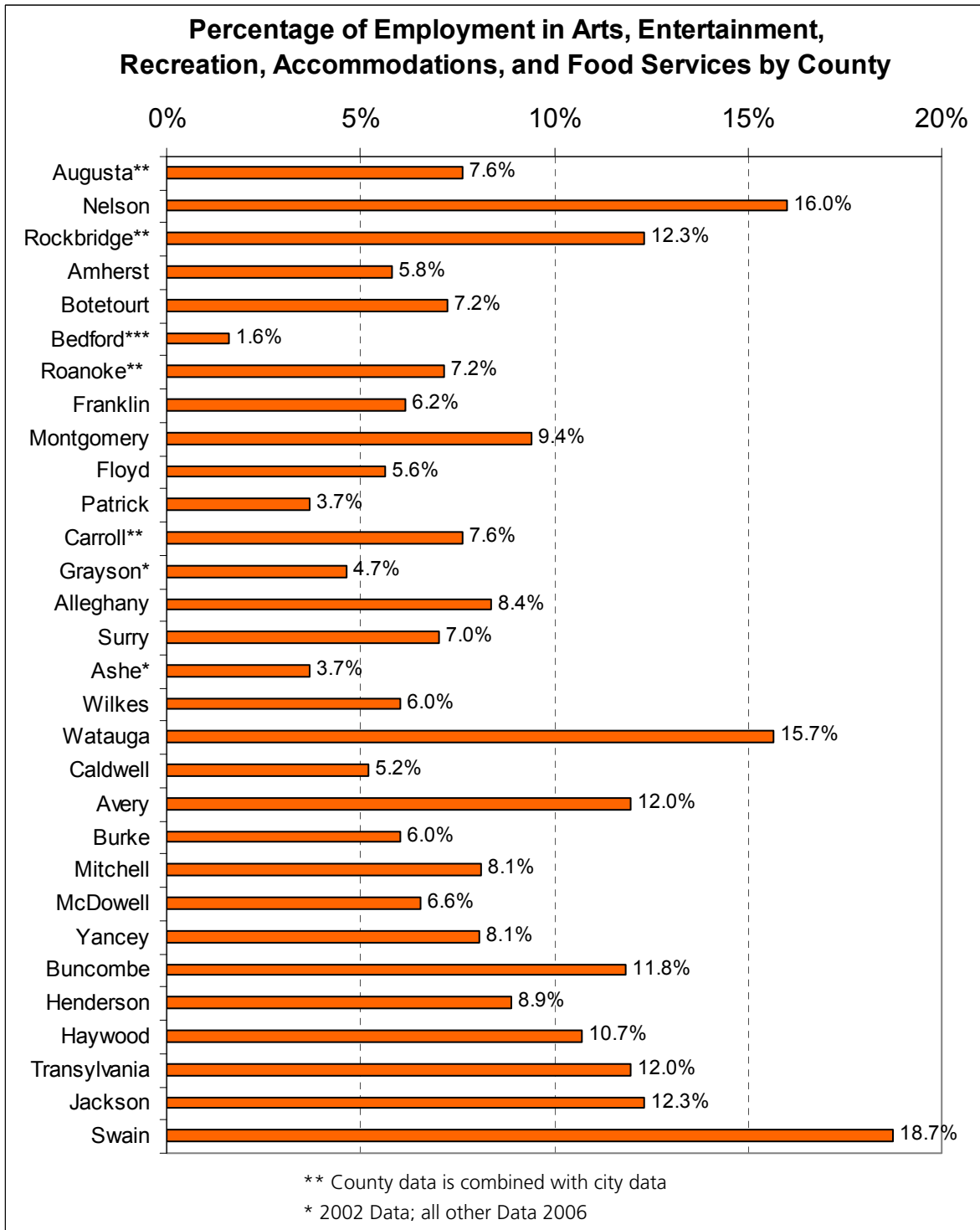
Nine of the twenty-nine counties derive over 10% of their employment from the arts, entertainment, recreation, accommodations, and food services sectors; the majority of these are in North Carolina. Tourism as an industry, defined by an aggregate of the previously listed employment sectors, is currently more important in these counties than in others bordering the parkway. Recent economic conditions and gas price increases have created a renewed interest in local travel and tourism and all counties are looking toward tourism as an economic driver. The percentage of tourism employment for all the counties bordering the parkway falls between 5% and 10% (Blue Ridge Parkway Socioeconomic Atlas 2003).

## Projected Employment through 2020.

Several counties that are a greater distance from the population centers of Asheville or Roanoke are projected to experience a decrease in total employment by industry from 1999 to 2020. This decrease in employment is only projected for the construction, manufacturing, agriculture, and natural resource sectors. Swain, Burke, and Mitchell counties in North Carolina are projected to experience a decrease in total employment in Construction and Manufacturing (-4% of total) by 2020. Grayson, Carroll, and Augusta counties in Virginia as well as Roanoke City are expected to experience a decrease of 11% in total employment in the construction and manufacturing sector by 2020. Surry and Wilkes counties in North Carolina are projected to decrease by 4% in total employment by industry in the agriculture and natural resources sector by 2020. The Virginia counties of Patrick, Grayson, Floyd, Franklin, Rockbridge, and Nelson are projected to decrease in total employment within the agriculture and natural resources sector by 6% from 1999 (Blue Ridge Parkway Socioeconomic Atlas 2003).

Beyond these economic and employment trends at the county level, the region would continue to be influenced by broader national and even international economic fluctuations. For example, the recession that began in late 2008 continues to impact the entire country, including the entire parkway region. The economic downturn has led to higher unemployment levels and housing vacancies as well as reductions in housing prices in the short term. The national economy would be expected to recover and stabilize and the long-term economic and employment trends discussed here would hold.

**FIGURE 28. REGIONAL ECONOMICS**



Employment data courtesy United States Bureau of Economic Analysis, 2002 and 2006.

## Earnings Current and Projected

**Sales and Services.** Sales and services and manufacturing and construction were the two anchor sectors for all 29 counties surrounding the parkway in 1999. Swain County, North Carolina, which borders the parkway on the southern end, attributed 65% of its total earnings in 1999 to sales and services and Nelson County, Virginia, on the northern end of the parkway, reported that 59% of its total earnings came from sales and services. These two counties claimed the greatest total earning percentages from sales and services of any adjacent counties. The city of Roanoke reported 71% of total earnings were from sales and services. Similarly, other cities along the parkway claim a much higher percentage of sales and services earnings than the county governments. Burke and McDowell counties, North Carolina, claim the lowest total earnings attributable to sales and services at 31% and 27%, respectively. The remaining counties total earnings from sales and services in 1999 range from 32% to 58% (Blue Ridge Parkway Socioeconomic Atlas 2003).

Projected percentages of total earnings for 2020 in the 29 counties bordering the parkway predict heavy increases in the sales and services sector, the largest being a projected increase of 112% in Bedford County. No county adjacent to the parkway is projected to increase its total percentage of earnings from sales and services less than 31% by the year 2020.

### Construction and Manufacturing.

Construction and manufacturing total income earnings by county range from 56% of total earned income in McDowell County, North Carolina to 10% of total earned income in Swain County, North Carolina. The North Carolina counties of McDowell, Caldwell, Burke, Transylvania, Yancy, Ashe, and Alleghany and the Virginia counties of Grayson, Patrick, and Franklin all derive the majority of their total income earnings from construction and manufacturing. Only McDowell and Caldwell counties in North Carolina claim a higher percentage of employment from construction and

manufacturing, 48% and 45%, respectively, than sales and services out of all 29 counties surrounding the parkway in 1999 (Blue Ridge Parkway Socioeconomic Atlas 2003).

The construction and manufacturing sector is projected to increase in total percentage of income for all 29 counties that border the parkway by 2020. The total income percentage increase is projected to range from 1% in Grayson County, Virginia, to 74% in Botetourt County, Virginia. The median projected total income earnings for all 29 counties surrounding the parkway in construction and manufacturing is 28% versus 62% for Sales and Services by 2020.

### Government Services and

**Expenditures.** Total percentage of earnings by county for government services, meaning expenditures by the government in those counties, ranges from 11% in Alleghany, Caldwell, and Transylvania counties in North Carolina to 28% in Jackson County, North Carolina, and Amherst County, Virginia.

Government services are projected to comprise 45% of total income for parkway adjacent counties in 2020 (Blue Ridge Parkway Socioeconomic Atlas 2003). The majority of the federal lands are national forests, managed by the U.S. Forest Service, and Great Smoky Mountains National Park, managed by the National Park Service but separately from the parkway. This ownership contributes to more federal expenditures in the study area.

### Agricultural and Natural Resources.

Agriculture and natural resources sector total earnings range from 1% to 22% with most counties claiming less than 10% of total earnings from agriculture and natural resources in 1999 (Blue Ridge Parkway Socioeconomic Atlas 2003).

The median projected 2020 total income for all 29 counties along the parkway attributed to agriculture and natural resources is 41.5% versus government services at 45% (Blue Ridge Parkway Socioeconomic Atlas 2003).

## Poverty

Bedford City had the highest poverty rate of any jurisdiction bordering the parkway at 18.3% and Roanoke County had the lowest at 4.4%. The median poverty rate is 11.8% for the study area.

Proximity to interstate highways and regional population centers has an effect on poverty. The counties bordering the parkway in both North Carolina and Virginia furthest from an interstate highway have the highest percentage of residents in poverty. The counties in both North Carolina and Virginia adjacent to the parkway with the lowest percentage of residents in poverty contain or surround the regional population centers of Asheville and Roanoke; they also have interstate highway access. Both regional population centers receive higher than average amounts of federal expenditures per capita and contain a higher than average percent of residents in poverty. Higher federal expenditures per capita are more closely connected to highways and cities adjacent to the parkway than rural counties adjacent to the parkway as of 2003. Access and proximity to jobs has a large economic impact on the 29 neighboring counties.

## Seasonal Housing

The percentage of seasonal housing in the counties adjacent to the parkway is an indicator of tourism and service industry economies. Avery County, North Carolina, has the highest seasonal housing rate at 39.9%. Nelson County, Virginia, has the second highest at 24.7% and Swain County, North Carolina, has 18% seasonal housing. Counties with low seasonal housing, less than 2%, are Surry, Wilkes, and Burke in North Carolina and Amherst and Augusta in Virginia. These counties have higher than average populations compared with the other counties along the parkway and lower elevations. The counties with the highest seasonal housing rates and counties with the highest percent of recreational and tourism employees are also some of the most sparsely populated counties

in the study area. They are also relatively far from population hubs (Blue Ridge Parkway Socioeconomic Atlas 2003).

## Scenic Views and Economic Activity

Scenic views and the parkway motoring experience are the two primary reasons that visitors come to the parkway. *The Blue Ridge Parkway Scenic Experience Project*, a study completed in 2004, indicates that degraded scenic views could result in fewer visits and, therefore, less tourism and economic stimulus for surrounding counties. Visitors said that they are less likely to visit if the quality of the view is degraded. Reductions in visitors would have a direct impact on service jobs at hotels, restaurants, gas and convenience stores, and gift shops. Reduced tourist spending would also be felt in the reduction of sales tax and other taxes levied on hotel/motel and rental car patrons. Currently, North Carolina has the majority of scenic viewpoints and highest quality most intact views along the parkway road. Economic conditions, including tourism employment and seasonal housing, correlate to increased views in North Carolina compared to Virginia (UNC-Asheville 2004).

Based on economic studies in western North Carolina, viewing mountain scenery is a large contributor to the success of regional tourism. As a scenic motorway, the parkway was designed to provide sweeping views of the Blue Ridge Mountains and pastoral landscapes from the convenience of pullouts along the roadway. The majority of the counties along the parkway have maintained their rural character, but four population centers along the parkway have an impact on viewsheds resulting from increased development of the rural land composing the views. The city of Asheville and Buncombe County; the cities of Boone and Blowing Rock and Henderson County; Roanoke and Roanoke County; and the city of Staunton and Augusta County have all grown considerably since the origin of the parkway. These areas could present the greatest threat to viewsheds along the parkway.

## Blue Ridge Parkway and Interstate Highways

Metropolitan areas have a large impact on the parkway with regards to visitor use, population growth, and economic activity. Proximity to these highways has an effect on population, demographics, economic activities, and housing on the region (U.S. DOT 2007).

**Interstate 85.** The parkway is less than 100 miles from most of the population centers along the I-85 corridor, which connects Montgomery, Alabama, with Petersburg, Virginia, and less than a day's drive from the megalopolis along the Eastern Seaboard. The I-85 corridor is one of the fastest growing areas in the United States and includes several large metropolitan areas that overlap in concentric rings including Atlanta, Georgia; Greenville, South Carolina; Charlotte, Winston-Salem, and Raleigh-Durham, North Carolina; and Richmond, Virginia. These central cities are surrounded by thousands of linked communities. Similarly, the smaller metropolitan areas of Asheville and Hickory-Morganton-Lenoir, North Carolina; Knoxville, Tennessee; Johnson City-Kingsport-Bristol, Tennessee-Virginia; and Lynchburg and Charlottesville, Virginia, overlap both counties surrounding the parkway and communities closely linked to the I-85 corridor (Socioeconomic Atlas for the Blue Ridge Parkway 2003).

**Interstate 81.** Interstate 81 originates in Dandridge, Tennessee, east of Knoxville, travels northeast into Virginia, skirting the western boundary, and continues to the Canadian border in upstate New York. This transportation corridor acts as a back road linking the Appalachian area and the Ohio River Valley with the population centers of the northeastern United States (U.S. DOT 2007).

Interstate 81 is an integral access route and economic corridor for many Appalachian counties in North Carolina and Virginia through which the parkway passes. The interstate does not pass through any large

metropolitan areas, but it links population centers in the mountainous terrain to other markets across the southern, midwestern, and northeastern United States. Specifically, Roanoke, Botetourt, Rockbridge, and Augusta counties in Virginia border I-81. Interstate-81 runs perpendicular to four other interstate highways that bisect the northeast-southwest direction of the Appalachian Mountains and the parkway: (1) I-26 passes through Hendersonville, North Carolina; Asheville, North Carolina; and Johnson City, Tennessee before merging with I-81; (2) I-40 passes through Asheville, North Carolina, crosses I-26, then passes through Newport, Tennessee, before merging with I-81; (3) I-77 passes through Charlotte, North Carolina and continues north through the Appalachian Mountains in Virginia before merging with I-81 near Wytheville, Virginia; and (4) I-64 runs northwest from Richmond and passes through Charlottesville, Waynesboro, and Staunton, Virginia before merging with I-81.

In summary, sections of the parkway that are crossed by an interstate highway have a greater sphere of influence on the surrounding area due to the interstate's impact on the surrounding community.

## Land Use and Ownership

Land uses in the study area include public and private forests; agriculture; natural areas supporting wildlife and ecological conservation; outdoor recreation and other open space; rural residential use; and developed residential, commercial, and industrial lands. Agricultural land uses, including crop production and livestock grazing, continue to be prominent in most of the Virginia and northern North Carolina counties along the parkway. However, growth in residential development adjacent to the parkway has increased tremendously and affected many of the scenic views. Second homes account for much of the development in the last 10 years. Most of the counties in Virginia and North Carolina are anticipating an influx of more retirees. Downtown redevelopment is occurring in Lenoir in



Caldwell County, North Carolina, and other projects designed to attract visitors are being considered in other counties.

Land use regulations are sparse throughout the 29-county area and county zoning is almost nonexistent. Several counties are considering cell tower, ridge top, and viewshed ordinances to preserve the views. Due to topography and limited urban areas most residential growth is limited to one or more acre lots. Only Roanoke County, Virginia, and the larger cities in Virginia have zoning ordinances. The city of Asheville, North Carolina, and the city of Roanoke, Virginia, have accommodated the parkway into their city plans with connection and buffer strategies. Viewsheds are at the greatest risk of degradation without controlled residential growth outside city limits.

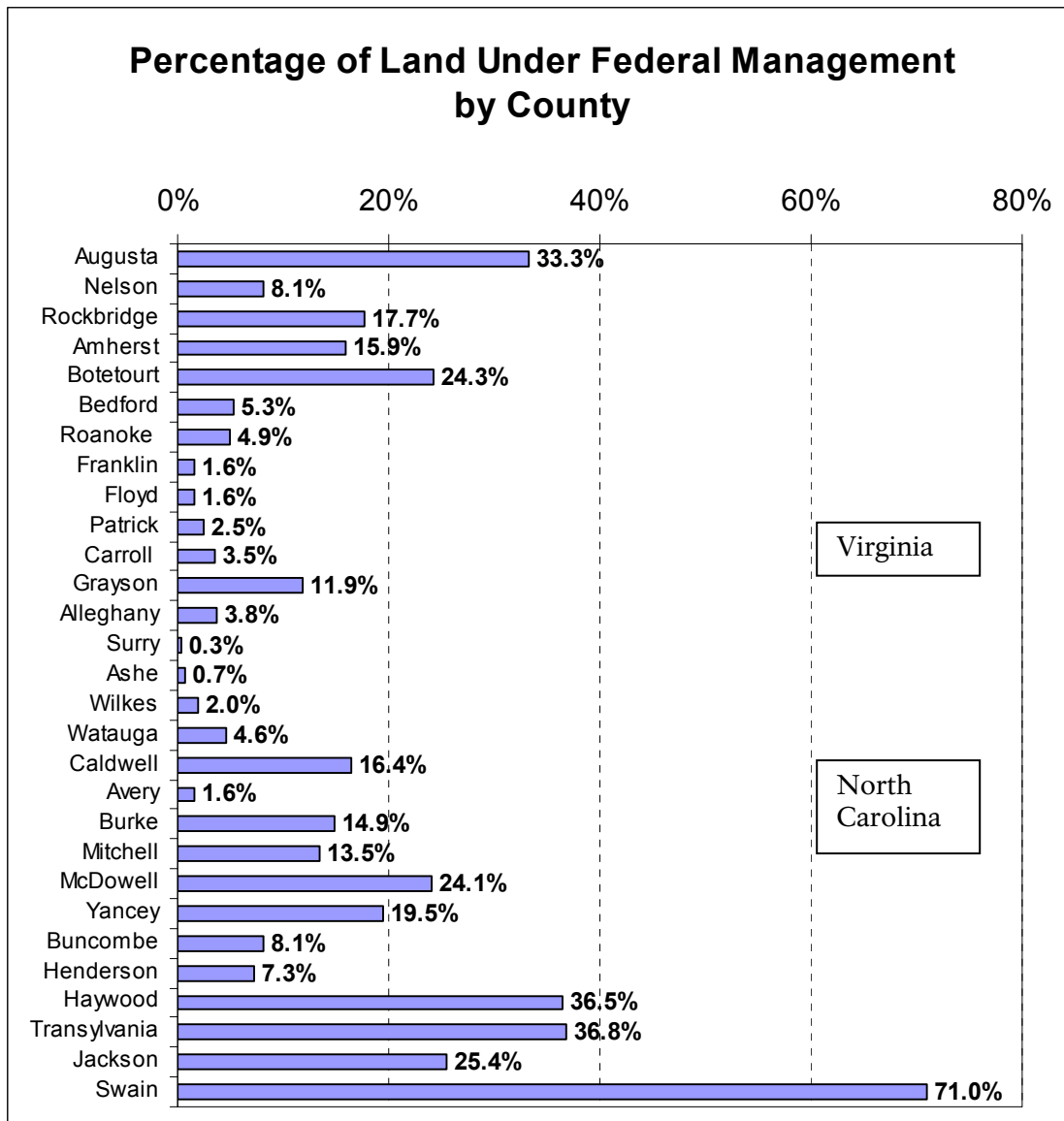
**Federally Managed Land.** The percentage of federally managed land in the study area in 2001 varied from 71% in Swain County, North Carolina (where Great Smoky Mountains National Park is located) to 0.3% in Surry County, North Carolina. The median percentage of land under federal management falls at 5.3% (Blue Ridge Parkway Socioeconomic Atlas 2003). The majority of the federal lands are national forests, managed by the U.S. Forest Service and Great Smoky Mountains National Park, managed by the National Park Service. The total dollars transferred to counties by the federal government as part of the Payments-In-Lieu-of-Taxes program have a direct impact on the region as revenue for county governments. Within the study area in 2000, Payments-in-Lieu-of-Taxes payments ranged from \$1,040 (Surry County) to \$270,767 (Swain County).

## Visitor Spending and Employment Impact

An economic study completed by the parkway in 1996 estimated a \$2.3 billion annual addition to local economies associated with the parkway (NCSU 1996). Other estimates of the economic contributions associated with the parkway, using direct expenditures as the measure of contribution, range from \$351 million to \$1.8 billion annually (in terms of 1996 currency values) (Brothers and Chen 1997). The wide range in estimated economic impacts reflects differences in geographic scope and analytical approach to estimate such contributions, with the lower estimate derived by the National Park Service based on the parkway's annual operating budget and estimated annual spending by visitors to the park.

More recent estimates of the parkway's economic contributions are based on the 17.4 million recreation visits to the parkway in 2007. Nonlocal visitor spending totaled \$318,204,000. Those visits and the corresponding economic impacts accrued disproportionately between Virginia and North Carolina; Virginia receiving 38% of the total and North Carolina 62%. The total NPS payroll directly supported 328 jobs including contract and seasonal jobs. Other jobs supported by nonlocal visitation to the parkway are estimated at 6,400. Those jobs, geographically dispersed along the entire length of the parkway, contributed \$18,859,000 to regional personal income directly from the National Park Service payroll and \$196,683,000 indirectly from other supported jobs. Nonlocal visitor spending totaled \$318,204,000. When the income and spending effects are combined, the parkway adds an estimated \$533,746,000 to local economies and 6,727 jobs along the total parkway length (Stynes 2008).

**FIGURE 29. PERCENTAGE OF FEDERALLY MANAGED LAND IN COUNTIES ADJACENT TO BLUE RIDGE PARKWAY**



Data courtesy Blue Ridge Parkway Socioeconomic Atlas, 2003.

**FIGURE 30. ECONOMIC IMPACT ESTIMATES FROM THE BLUE RIDGE PARKWAY TO THE SURROUNDING REGION IN 2007**

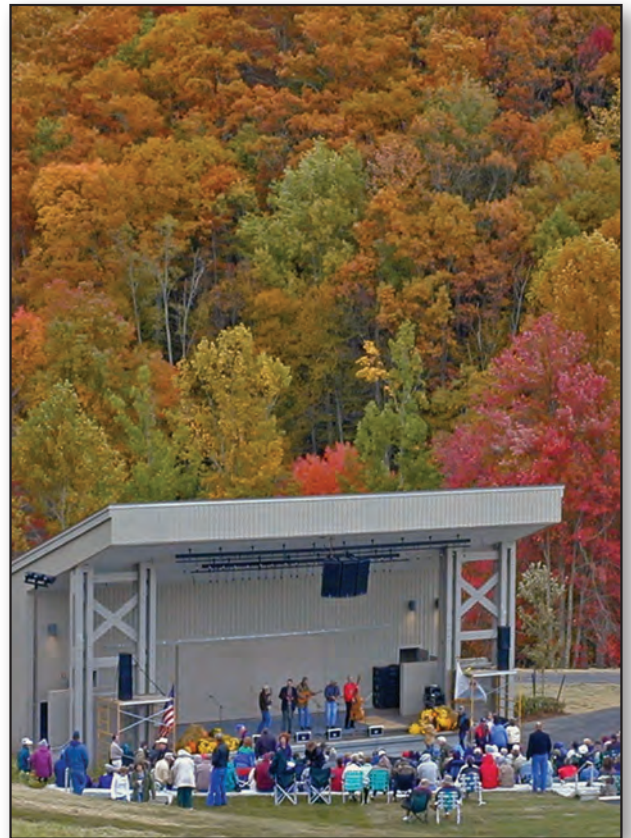
2007	Values
Total Recreation Visits	17,352,286
Nonlocal Visitor Spending	\$ 318,204,000.00
Total Visitor Spending	\$ 350,898,000.00
Jobs Supported	6,400
Labor Income	\$ 127,077,000.00
Value Added	\$ 196,683,000.00
NPS Jobs Supported	328
Labor Income	\$ 16,530,000.00
Value Added	\$ 18,859,000.00
Total Value Add to the Region	\$ 533,746,000.00
Total Jobs Supported by Parkway	6,727

Data is courtesy of National Park Visitor Spending and Payroll Impacts, 2007 by Daniel Stynes.

# ENVIRONMENTAL CONSEQUENCES 4



Mabry Mill



Blue Ridge Music Center Amphitheater



## INTRODUCTION

The National Environmental Policy Act requires that environmental documents discuss the environmental impacts of a proposed federal action, feasible alternatives to that action, and any adverse environmental effects that cannot be avoided if a proposed action is implemented. In this case, the proposed federal action is the adoption of a general management plan for the Blue Ridge Parkway. This chapter analyzes the environmental impacts of implementing each of the three alternatives on natural resources, cultural resources, the visitor experience, the socioeconomic environment, and parkway operations. The analysis is the basis for comparing the beneficial and adverse effects of implementing the alternatives. By examining the environmental consequences of all alternatives on an equivalent basis, decision makers can evaluate which approach would create the most desirable combination of benefits with the fewest adverse effects on the park.

Because of the general, conceptual nature of the actions described in the alternatives, the impacts of these actions are analyzed in general qualitative terms. Thus, this environmental impact statement should be considered a programmatic analysis. If and when site-specific developments or other actions are proposed for implementation subsequent to this general management plan, appropriate detailed environmental and cultural compliance documentation would be prepared in accordance with National Environmental Policy Act and National Historic Preservation Act requirements.

This chapter includes a description of cumulative impacts. The impacts of the alternatives are organized under each impact topic. Impact analysis discussions are organized by topic and then by alternative. At the beginning of each major topic is a discussion of the methods and assumptions used for that topic. Each alternative discussion also describes cumulative impacts and presents a conclusion. The impacts of each

alternative are summarized in table 20, at the end of “Chapter 2: Alternatives.” A cost comparison of the alternatives is found in the “Development of Cost Estimates” section at the beginning of chapter 2.

### METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

The planning team based the impact analyses in this chapter on professional judgment, research of existing studies and literature, opinions from experts within the National Park Service and other agencies, and the study of previous projects that had similar effects. When assessing the potential impacts on the resources and values within and adjacent to the Blue Ridge Parkway, several impact parameters were analyzed for each alternative. In this chapter, the potential impacts of alternatives A, B, and C are described in terms of four criteria: *type*, *intensity*, *duration*, and *context*. Explanations and definitions of these criteria are provided as follows:

**Type:** The *type* of impact is determined to be either *beneficial* or *adverse*. The beneficial and adverse impacts on resources and values are assessed by comparing the anticipated changes that would result from implementing each action alternative to the results of continuing current management direction (alternative A). Once it is determined if an impact is beneficial or adverse, the other impact measurement criteria—intensity, duration, and context—can be assessed.

**Intensity:** The *intensity* refers to the degree, level, or strength of the impact on the respective resource or value. The impact intensities for beneficial and adverse effects are quantified as *negligible*, *minor*, *moderate*, and *major*. Because the definitions of intensity vary by resource topic, separate intensity definitions are for each impact topic (in individual sections of this chapter).

**Duration:** The duration refers to the length of time the impact affects the resource or value. In this analysis, impact durations are defined as follows (unless otherwise noted in the impact topic section):

- **Short-term:** Impacts would last less than five years.
- **Long-term:** Impacts would persist for five or more years, or may be permanent.

**Context:** The context refers to the setting or geographic scope of the impact on the particular resource or value. In this analysis, impacts are measured relative to the following two context levels (unless otherwise noted in the impact topic section):

- **Local:** Impacts would be limited to a specific site or relatively small area within the parkway boundaries.
- **Regional:** Impacts would occur over a large, widespread area within and/or beyond the parkway boundaries, or in several areas along the parkway.

## CLIMATE CHANGE

The impacts of climate change on the parkway are not expected to vary by alternative, and the lack of certainty about regional climate change adds to the difficulty of predicting how these impacts would be realized. Furthermore, management actions that are inherently part of each alternative would not fundamentally change with the anticipated added effects of climate change. Climate change is one factor among many that cause similar outcomes, so management actions would not likely be taken due to climate change alone. Given this complexity, the potential influences of these changes on parkway resources were included in “Chapter 3: Affected Environment,” but will not be analyzed in detail with respect to each alternative.

## CUMULATIVE IMPACTS

The Council on Environmental Quality, which ensures that federal agencies meet their

obligations under the National Environmental Policy Act, requires an assessment of cumulative impacts in the decision making process for all federal projects. Cumulative impacts are described in Council on Environmental Quality regulation 1508.7 as follows:

*Cumulative impacts* are the impacts that result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time.

Cumulative impacts are evaluated separately for the no-action and three action alternatives by adding the impacts of each alternative with the impacts of other past, present, and reasonably foreseeable future actions. To determine this, it was necessary to identify other actions in the area surrounding the parkway. The extent of this area was determined to be the 29 counties that border the parkway in North Carolina and Virginia (see map). This “action area” includes federal, state, county, tribal, and private lands within an average of 25 miles on either side of the entire 469-mile length of the parkway.

The “action area” for assessing cumulative impacts is the same for all impact topics, because these 29 counties provides an ideal boundary for analyzing a wide range of regional influences, including land uses, economy and commerce, recreation and tourism, and other government actions. Furthermore, within these counties are portions of two national parks, three national forests, a national historic site, a national monument, numerous state parks, the Cherokee Indian Reservation, and four large urban areas. It also encompasses the major ecoregions of the greater Appalachian Mountains and the majority of all viewsheds seen by visitors traveling the parkway.

To determine which actions within this area may have cumulative impacts on parkway

resources, the National Park Service requested federal, state, county, and tribal governments to provide a list of projects that are currently being implemented or would likely be implemented over the next 20 years—the typical life of a general management plan. Projects identified include activities that are planned by governments, local businesses, or private landowners. For those who did not initially respond, the National Park Service sent out follow-up requests.

In total, 32 responses were received. Of those who responded, only four local governments stated that they are unaware of any developments that would have an impact on the parkway. Because some governments did not respond, the cumulative scenario may not include all past, present, and reasonably foreseeable future actions. However, with so many responses received, the scenario does provide a representative sample of the types and extent of actions occurring along the entire length of the parkway.

Based on the responses, actions were organized into four main categories—recreation and tourism enhancements, residential and commercial developments, road construction and improvements, and resource protection activities. These categories are summarized below with examples of past, present, and reasonably foreseeable future actions that could contribute to cumulative impacts. Examples under each category are generally organized by the seven parkway segments. Because most of these actions are in the early planning stages, the evaluation of cumulative impacts described under each impact topic is qualitative in nature.

A number of counties in the action area also submitted a variety of long-range planning documents. These include comprehensive plans, greenway plans, transportation improvement plans, bikeway plans, trail plans, conservation plans, and corridor development plans. The plans that are conceptual in nature, focusing on long-term goals and objectives, rather than specific projects that have been

funded and approved, have not been used to develop the cumulative scenario. For more information about general socioeconomic trends in the region, see the socioeconomic section of “Chapter 3: Affected Environment.”

## **Recreation and Tourism Enhancements**

Counties and municipalities adjacent to the parkway have a variety of recreation and tourism initiatives to stimulate economic growth and improve quality of life in the area. The following projects are among those that could have cumulative impacts on parkway resources and visitor experiences.

The city of Roanoke has a variety of ongoing or planned recreation and tourism projects. These include renovation of the Historic City Market and Center in the Square. Expansion of the Historic Hotel Roanoke and Conference Center in downtown Roanoke is also planned. The city and Roanoke County also propose to complete several greenway projects, including a 30-mile bicycle/pedestrian path from western Roanoke County to the parkway.

The city of Galax, about 7 miles west of the Plateau segment of the parkway, has a foreseeable streetscape and visual enhancement project of their historic downtown. The project would be undertaken in part to improve the corridor of the entrance of the city for visitors coming off the parkway for entertainment and other special events.

Stone Mountain State Park, along the Highlands segment of the parkway, has a number of capital improvement projects planned to improve public recreational and educational use of the park, as well as support facilities needed for park operations. These include development of group camp sites, expansion of the visitor center, trail improvements, and bridge replacements. Along the Highlands and Black Mountain segments of the parkway, the High Country Council of Governments has completed a road cycling map for Wilkes County and plans

to do similar maps for the other six counties within their jurisdiction (Alleghany, Ashe, Avery, Mitchell, Watauga, and Yancey). While the Wilkes County cycling map does not include any routes that include parkway segments, the other county maps may. Watauga County also plans to emphasize the acquisition of land for development of greenways, bike trails, and other recreation opportunities, such as stream access.

Mount Mitchell State Park, next to the Black Mountain segment of the parkway, is proposing to upgrade existing facilities and some new recreational opportunities. These projects include general repairs and renovation of parkway infrastructure, a possible new backcountry campground, and consideration of new hiking and mountain biking trails.

In Burke County, along the Black Mountain segment of the parkway, recreation and tourism initiatives include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area. The county is also participating in the development of a regional recreation plan and collaborating to improve the Brown Mountain Overlook, a stopping point for tourists on their way to the parkway.

Buncombe County, along the Asheville segment of the parkway, is conducting feasibility studies for two priority greenway projects. The first is an 11-mile greenway trail that would connect the towns of Black Mountain and Asheville, with a possible connection to the parkway. The second project is a 15-mile trail along the French Broad River Corridor. Both greenway projects would create a continuous trail system connecting three counties, five municipalities, the parkway, and the Appalachian Trail.

The city of Brevard is currently working with the U.S. Forest Service to construct the final phase of a biking and hiking trail to connect downtown Brevard with an area inside the Pisgah National Forest. This would allow residents and tourists to use the trail to access the parkway.

The Carl Sandburg Home National Historic Site, near the Pisgah segment of the parkway, has begun several new projects that enhance the park's historic character and provide better visitor experiences. These include expanding the park's authorized boundary, a future visitor center, and upgrades to other amenities offered at the park.

Collaborative efforts are also underway to develop portions of the Mountains-to-Sea Trail within and adjacent to the parkway corridor in a number of North Carolina counties. Great Smoky Mountains National Park is developing plans to improve concession services, the Oconoluftee Visitor Center, as well as portions of the Mountains-to-Sea Trail.

### **Residential and Commercial Developments**

Ongoing residential and commercial developments are occurring to the greatest extent adjacent to the Roanoke, Highlands, and Asheville segments of the parkway. Types of development include residential homes, subdivisions, commercial businesses, and industry. Many counties and municipalities along these segments expect this trend to continue with the ongoing influx of people to these areas; however, current development activity has dropped off given the recent downturn in the economy. The following projects are among those that could have cumulative impacts.

In Roanoke County, the parkway spans 26 miles of heavily developed lands that are adjacent to, near, or visible from the parkway. Within this area, there are 11 ongoing residential developments, totaling over 2,000 new single-family homes. There are also six new commercial developments that include both shopping and business centers. Several planning studies have also been adopted by the county or are underway to manage for future growth and development. These land use plans include the Route 220 Corridor Study, the Mount Pleasant Community Plan, the Route 221 Area Study, and the Vinton



Area Corridors Plan. These planning efforts call for water and sewer line extensions and new road construction and widening and pinpoint areas that are most attractive for upcoming development.

Residential development projects planned in the city of Roanoke include 1,300 new and 2,000 replacement housing units. Economic developments in the city include a 25-acre technology park, a 430-acre industrial and technology park, a 110-acre redevelopment area, and a 100-acre commercial and mixed-use development area. Nine other abandoned or underused industrial and commercial brownfield corridors through the city are also proposed for redevelopment. The city of Roanoke is also working with the U.S. Army Corps of Engineers to reduce flooding along the Roanoke River.

In Franklin County, current development activities near the Roanoke segment of the parkway include of a residential subdivision consisting of nine large lots, ranging from 7 to 13 acres each. Another subdivision totaling 100 lots may also occur in the area.

In Watauga County, along the Highlands segment of the parkway, there are three residential developments planned, totaling about 1,800 lots on 6,300 acres. There are also plans to expand the Tweetsie Railroad Park to include more dining and shopping venues. A Wine and Culinary Center is also being planned adjacent to the parkway near Blowing Rock. In this county, the development of commercial wind power is also likely in the foreseeable future and could be visible from the parkway. In general, the southern half of Watauga County (which the parkway passes through) is being developed faster than the rest of the county. To keep pace with this growth, a water line is planned along U.S. 321, connecting the water systems of Boone and Blowing Rock.

In Surry County, in the Highlands segment of the parkway, there are five residential developments planned, totaling 360 lots. Planned industrial projects include expansion of the county landfill by 90 acres south of

Mount Airy, expansion of a manufacturing facility south of Dobson, a biofuel power plant, and a new state correctional facility is proposed. Several infrastructure improvement projects are planned by the county to keep pace with growth and development, the majority of which include water and sewer line extensions.

In Buncombe County, along the Asheville segment of the parkway, there are four residential developments that have been approved within the last two years. These include two apartment complexes (totaling 450 units), a 160-unit condominium, and a development with 150 multifamily units. The area along Hendersonville Road within the city of Asheville continues to be developed, causing increased congestion of roadways and use of the parkway for local commuter traffic. Other private properties adjacent to the parkway in Asheville have started to see an increased interest in development activity and the city of Asheville expects these properties to become more residential over time.

The Ridge, Black Mountain, and Pisgah segments of the parkway are experiencing less development activity due to the extent of national forests in these areas. However, some development on private lands is still occurring within these segments. For example, in the portion of Burke County adjacent to the parkway, no major development activities are proposed due to the proximity of the Pisgah National Forest. However, a major residential development is occurring to the east, around Lake James, where 2,400 lots are projected to be completed by 2012.

The same is true of Henderson County. Although no developments are planned near the parkway due to the Pisgah National Forest, there are a number of developments that have been approved in other parts of the county south of Asheville. These include 13 separate residential developments, totaling approximately 5,000 lots on 5,400 acres. A development plan for a commercial park has also been approved by the county.

In Haywood County, in the Pisgah segment of the parkway, there is considerable commercial development along Great Smoky Mountain Expressway, between Waynesville and the parkway at Balsam Gap. Due to the lack of county zoning, there is little to control the continued growth in this area, which may change the character of the community and the views from the parkway.

In Transylvania County, along in the Pisgah segment, demolition and environmental clean-up of the former Ecusta Paper Mill is underway. Once remediation is complete, the new owners plan to attract high end retail and residential and resort development to the property.

In Mitchell, McDowell, and Yancey counties—all along the Black Mountain segment of the parkway—five residential developments are planned, totaling 300 lots.

In Nelson County, ongoing development of Wintergreen Resort would continue adjacent to the Ridge segment of the parkway.

In Bedford County, along the Ridge segment of the parkway, the majority of new and ongoing residential developments are planned in the Forest and Smith Mountain Lake areas. These include 120 townhouses, 195 single-family dwellings, and 93 upper level housing units in downtown Moneta; a 387-acre development with 327 single-family lots at Mariner's Landing; and 830 single-family and multifamily dwelling units in Farmington. The county stated that they may recognize the significance of the viewshed of the parkway when updating their zoning and subdivision ordinances.

### **Road Construction and Improvements**

The Virginia Department of Transportation has plans in Roanoke County to widen VA 634 to four lanes with bike lanes. The city of Roanoke has plans to complete approximately \$100 million in transportation system improvements including interchange

improvements at three locations on I-581, the widening of U.S. 460, as well as other intersection and corridor improvements in the area. Roanoke County also has a number of road improvements underway in the towns of Vinton and Mount Pleasant. These include reconstruction and minor extensions of public streets and roads. The development of a new interstate highway corridor (I-73) across the parkway near Roanoke is also proposed.

The North Carolina Department of Transportation has plans for road improvements in a number of counties bordering the parkway. These include the widening of U.S. 221 from two to four lanes between NC 226 and 194 in Watauga, Avery, and Burke counties. In Watauga County, U.S. 321 through Blowing Rock, NC 105 (Tynecastle to Boone), NC 184 (Tynecastle to Banner Elk), and NC 194 (1.1 miles North of Newland) are also planned for widening. NC 191 through Buncombe and Henderson counties and U.S. 25A in Buncombe County also plan to be widened to multilanes.

In Mitchell, McDowell, and Yancey counties, approximately 12 miles of new road construction is planned in association with five residential developments. Other counties along the parkway did not specify the amount of new road construction that would occur with planned developments, but it is likely that new roads would be built.

The departments of transportation in Virginia and North Carolina have a variety of other road improvement projects planned along the Blue Ridge Parkway and on adjacent roads. These projects range from bridge and tunnel repairs to resurfacing and reconstructing guardrails and shoulders. These are routine or deferred maintenance projects of existing roadways, not new construction.

### **Resource Protection Activities**

There are numerous land protection activities occurring within the 29 counties surrounding the parkway. These activities range from the protection and restoration of habitats and

mountain scenery on public lands to the establishment of conservation easements to prevent the conversion of farmlands to residential or commercial developments. The following projects are among those that could have cumulative impacts on parkway resources.

The majority of national forest lands along the Ridge, Black Mountain, and Pisgah segments of the parkway are managed for scenery conservation, wildlife habitat improvements, and to enhance biodiversity. The National Park Service aims to work with the U.S. Forest Service to ensure that timber harvest on adjacent national forest lands will be implemented in a way that protects and maintains scenic views from the Blue Ridge Parkway. Impacts on the viewshed are mitigated using the U.S. Forest Service's Visual Management System, which is based on different levels of acceptable scenery management. National forest lands that can be seen from the parkway are managed for preservation (very low visual impact), retention (activities are not visually evident), and partial retention (activities remain visually subordinate to the characteristic landscape). Prescribed burning and invasive species treatments are also important management strategies on these adjacent public lands.

Alleghany, Ashe, Avery, Watauga, Wilkes, and Yancey counties (along the Highlands and Black Mountain segments of the parkway) have, or are currently developing, voluntary agricultural programs that delineate working farms and place voluntary easements on farmland. Participating farms are scattered throughout these six counties.

The North Carolina State Park System recently acquired Grandfather Mountain, within the Black Mountain segment of the parkway. This new state park will undergo a planning process to address land protection and other resource management concerns. There are currently a number of conservation easements held by The Nature Conservancy on this property adjoining the parkway.

Buncombe County has selected high priority areas of the county for land protection using conservation easements, which include lands adjacent to the Asheville segment of the parkway. Since 2004, about 950 acres have been protected under newly established conservation easements. Buncombe County also has a voluntary farmland preservation program that offers farms some protection from encroaching development.

Approximately 18,500 acres of farmland are currently protected under the program. In addition, the county has plans to replace a portion of its public transportation fleet with alternative fuel vehicles, in order to reduce the county's carbon footprint and improve air quality.

Within Buncombe County, the city of Asheville has applied an overlay zoning designation for properties that border the parkway. All properties within this zone are required to respect larger than normal setbacks. Additionally, vegetative screening is required for all nonresidential developments.

The town of Waynesville placed its 8,000-acre watershed into a conservation easement. Approximately 9 miles of the Pisgah segment of the parkway is within or borders this watershed. About 700 acres of the watershed are in a "forever wild" easement, while the remaining portion is within a "working forest" easement. This portion requires a forestry management/stewardship plan, which may propose some timber treatments, such as thinning.

The town of Waynesville stated that a primary consideration of future forestry activities would be the protection of the parkway's viewshed.

Franklin County, along the northern portion of the Plateau segment, indicated that three conservation easements have been established near or adjacent to the parkway, totaling 950 acres. Roanoke County stated that one conservation easement, totaling 89 acres, has been established in the town of Vinton, near the parkway.

Great Smoky Mountains National Park, at the southern end of the parkway, is implementing a number of restoration projects and other land protection efforts. These include the

control of exotic plants, feral hogs, and hemlock woolly adelgid, as well as the development of fire and elk management programs.

# NATURAL RESOURCES

## INTRODUCTION

This analysis of the environmental consequences of alternatives A, B, and C on natural resource components of the Blue Ridge Parkway is based on the professional judgment of parkway staff, National Park Service planners, and other specialists in the field of natural resource management. This analysis describes impacts of the management alternatives at two different scales: a parkway-wide analysis, which describes the overall effect of broad parkway-wide strategies; and a parkway segment and recreation area analysis, which looks at more site-specific impacts on the parkway's 7 segments and 15 recreation areas.

To provide a thorough analysis of effects on the parkway's natural resources, this section has been organized by the five impact topics listed below, which correspond to the natural resource topics described in "Chapter 3: Affected Environment." Similar topics have been grouped together to limit redundancy and to present the analysis in a concise, understandable way.

- Vegetation and Wildlife—including plant communities, wildlife and wildlife habitat, and ecologically sensitive areas
- Federal and State Listed Species—including threatened and endangered species
- Geologic Resources and Soils
- Water-related Resources—including wetlands, riparian areas, floodplains, water quality, and streams
- Air Quality—including ozone, visibility, and atmospheric deposition

## VEGETATION AND WILDLIFE

This impact topic includes plant communities, wildlife and wildlife habitat, and ecologically sensitive areas.

## Methods and Assumptions for Analyzing Impacts

Vegetation and wildlife are addressed together in this section, because an analysis of potential impacts on wildlife typically involves a discussion of wildlife habitat, which consists of the various vegetation communities found within the park. Ecologically sensitive areas are also addressed under this section, because of their rare plant and animal associations. Threatened and endangered species associated with these areas are discussed under a separate impact topic.

Impacts on vegetation and wildlife were evaluated by comparing projected changes resulting from the action alternatives (B and C) to those of the no-action alternative (A). The thresholds used to determine impacts on these resources are defined as follows.

**Negligible:** Impacts on native species, their habitats, or the natural processes sustaining them would not be observable or detectable. Any effects would be well within natural fluctuations.

**Minor:** Impacts would be detectable, but they would not be expected to be outside the natural range of variability for native species, their habitats, or the natural processes sustaining them. Population numbers, genetic variability, and other demographic factors for species might have small changes, but they would remain stable and viable. Occasional responses to disturbance by some individuals could be expected. Sufficient habitat would remain functional to maintain viability of native species.

**Moderate:** Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they could be temporarily outside the natural range of variability. Population numbers, genetic variability, and other demographic factors for species might change, but would be expected to rebound to preimpact numbers and to

remain stable and viable over time. Frequent responses to disturbance by some individuals could be expected. Sufficient habitat would remain functional to maintain viability of native species.

**Major:** Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they would be expected to be outside the natural range of variability for extended periods of time or permanently. Population numbers, genetic variability, and other demographic factors for species might experience substantial changes. Frequent responses to disturbance by many individuals would be expected.

Loss of habitat might affect the viability of at least some native species.

### **Alternative A—No-action**

**Parkway-wide.** Until the late 1980s, management of the parkway was primarily focused on its completion, rather than on active management of its broader natural resources. As a result, the parkway's vegetation and wildlife communities have been managed with limited parkway staff on a project-by-project basis with incomplete resource information. For example, inventories of rare plant communities and wildlife habitat have not yet been completed for much of the parkway. Under the no-action alternative, the lack of a comprehensive, science-based management approach would continue to constrain the parkway's ability to develop a more long-term, ecosystem-based strategy.

In addition, under the no-action alternative, wildlife management would continue to focus primarily on individual species (as opposed to ecosystem-based management under alternatives B and C). Also, the control of invasive species would only occur where they directly affect rare species. These management constraints would continue to only protect vegetation and wildlife communities on a site-specific and species-

specific level, rather than a parkway-wide and ecosystemwide level.

The designed landscapes of the parkway (including human-made lakes, highly manicured lawns, overlooks, and other recreational developments) have also deemphasized the importance of managing vegetation and wildlife in their naturally occurring habitats. These designed areas of the parkway would continue to limit native biodiversity, fragment habitats, and contribute to the spread of invasive species. Although any of these impacts are not expected to increase (because there would be no expansion of the parkway's designed landscapes), the spread of invasive species would likely continue. Many invasive species were established during initial ground disturbance when the parkway was constructed, but because many of these species are shade tolerant, they are expected to continue to invade undisturbed areas of the parkway. Under the no-action alternative, vegetation management efforts would have some beneficial effects by helping control invasive plants on limited, local basis. However, over time, the forest species composition would likely continue to shift toward more mesic species, which is inconsistent with the U.S. Forest Service goal of maintaining and restoring native forest species on surrounding national forest lands.

Under current management, the parkway's strategy for acquiring adjacent lands would continue to lack emphasis on protecting important vegetation and wildlife resources, some of which straddle NPS and private property lines. Because the primary purpose of acquiring lands has been to protect scenic viewsheds, there have been missed opportunities to acquire lands with considerable natural resource values before these were sold and eventually developed. Despite these constraints, some properties have been acquired that contribute to the natural integrity of the parkway.

Boundary encroachments would also continue to occur regularly along the parkway. These include illegal developments (e.g., fences, roads, and structures) and

activities (e.g., off-road vehicle use) that result in habitat degradation, vegetation trampling, and the mortality of plants and animals. Under the no-action alternative, park management and enforcement efforts would have some beneficial effects by helping curtail some of this activity on limited, local basis. However, these encroachments are difficult to enforce, because much of the parkway has never been surveyed to clearly mark its boundary.

Similarly, illegal poaching of natural resources would continue along the parkway. Under the no-action alternative, the management approach to curtail poaching of sensitive plant species along the parkway would continue to have some local beneficial effect. However, the effectiveness of this management would continue to be quite limited due to the pervasiveness of poaching (and its economic incentive for poachers) in combination with limited law enforcement patrols. The illegal removal of highly sought-after rare plants is causing a decline in isolated populations of these species.

Under the no-action alternative, all state-designated natural heritage areas, globally ranked natural communities, and other known ecologically sensitive areas would continue to be protected from incompatible developments and visitor use, resulting in long-term minor beneficial effects to these areas. However, due to the high level of illegal uses in these areas of the park, the effectiveness of these management and enforcement efforts would continue to be relatively limited.

Overall, the continued parkway-wide management actions of alternative A would continue to have long-term negligible to minor beneficial local impacts on vegetation and wildlife habitat. However, as noted, adverse impacts to these resources would continue to occur from various threats (e.g., invasive plants, boundary encroachments, poaching, and other illegal uses of the parkway resources).

**Parkway Segments.** Only those parkway segments that would experience more specific

impacts than those described under the parkway-wide section are described below.

***Segments 1 and 6: Ridge and Asheville—***

Along the Ridge segment of the parkway, vegetation trampling would continue to occur where visitors are accessing regional trails on adjacent U.S. Forest Service lands. Currently, no parking or trail connectors are provided to manage this use, resulting in repeated trampling by vehicles, mountain bikes, and hikers. Consequently, long-term minor adverse local impacts on vegetation would persist under this alternative.

Similar trampling impacts would continue to occur along the Asheville segment of the parkway due to the lack of adequate parking areas for visitors to access hiking trails. These unpaved parking areas have caused vegetation damage along the road shoulder, resulting in long-term minor adverse local impacts.

***Segments 4, 5, and 7: Highlands, Black Mountain, and Pisgah—***

Under the no-action alternative, the parkway along portions of segments 4, 5, and 7 above 4,000 feet in elevation would be managed under a new vista management strategy (NPS 2008a) designed to improve habitat for the Carolina northern flying squirrel. Vistas and overlooks in these areas would be managed by only removing select red spruce, Fraser fir, yellow birch trees, and other woody vegetation as necessary to open up or to maintain the view, while keeping enough trees so that squirrels can still glide from one tree to another and have additional nesting resources. In general, these actions would improve habitat connectivity for wildlife and plant communities, resulting in long-term minor beneficial local to regional effects on globally imperiled, high-elevation spruce/fir forests.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

***Humpback Rocks—***Under the no-action alternative, the low and high elevation barren

rock outcrops at Humpback Rocks would continue to be affected by trail-related impacts. The trail system at this recreation area is poorly designed with multiple intersecting trails that are overly complex and confusing to visitors. This is resulting in numerous social trails and off-trail use that cause vegetation trampling of fragile plant communities associated with these globally imperiled rock outcrops. Consequently, this alternative would continue to cause long-term moderate adverse local impacts on these ecologically sensitive areas.

*Blue Ridge Music Center*—Under the no-action alternative, the location of the proposed interpretive music trail (as part of the original design for the Blue Ridge Music Center) would cause long-term minor to moderate adverse and local impacts (i.e., vegetation loss, habitat fragmentation, sensory-based disturbances, and soil compaction) to sensitive vegetation and wildlife communities in the bottomlands along Chestnut Creek. These impacts would likely result from ground disturbance associated with the future construction of the trail and vegetation trampling from possible off-trail visitor use. The vegetation at the Blue Ridge Music Center would also be affected by long-term minor to moderate beneficial and local impacts from implementation of the park's grasslands and fields management plan.

*Doughton Park*—The use of prescribed fire to maintain the fire-dependent vegetation communities at Doughton Park is allowed under current management; however, this approach has not been implemented to date. Consequently, Table Mountain pine, an endemic species to the Appalachian Mountains, would continue to decline throughout the area, resulting in long-term minor to moderate adverse local to regional impacts on this species. In contrast, natural communities of plants and animals associated with low-elevation rocky summits and other ecologically sensitive areas at Doughton Park continue to be protected from visitor-related impacts, because access to these areas is not provided. This would continue to have a long-

term moderate beneficial local effect on these rare habitats.

*Julian Price Park*—Under current management, unregulated backcountry camping and other activities at Hebron Falls could continue to occur. However, recent improvements to law enforcement presence in this area would help control these activities. This ongoing activity could continue to cause long-term, negligible to minor, adverse, and local impacts as a result of visitors trampling understory vegetation and compacting soil that are important to the health of the old-growth hemlock forest near the falls.

*Linville Falls*—Under current management, the recreation trails leading to the falls would likely continue to widen as a result of heavy visitor use. Social trails and off-trail use would also continue to cause local impacts on old-growth Carolina and Canada hemlocks as a result of vegetation trampling, soil compaction, and erosion. The forest at Linville Falls is also highly susceptible to Hemlock Woolly Adelgid infestation and is being treated with some effectiveness under the current management approach. The combination of visitor-related impacts and hemlock mortality from the Adelgid would continue to cause long-term moderate adverse local impacts on vegetation.

*Craggy Gardens*—Under the no-action alternative, most rare plant communities at Craggy Gardens would continue to be protected with a combination of active habitat management and access restrictions. The present-day extent of grassy balds is annually mowed to prevent the encroachment of woody vegetation, such as shrubs and trees. Also, high-elevation rocky outcrops are protected by simply limiting visitor access to these sensitive sites. These actions would continue to have a long-term minor to moderate beneficial local effect on the overall vegetation and wildlife communities of the area. However, under current management, some site-specific impacts would also continue to occur. The rare plant community adjacent to the Craggy Pinnacles overlooks would continue to be trampled by visitors



who are getting off the designated path and viewing area, resulting in long-term moderate adverse local impacts.

Overall, across the entire parkway, its segments, and recreation areas, alternative A would continue to result in both adverse and beneficial effects on the vegetation and wildlife communities of the parkway. The adverse impacts would be long-term minor to moderate and local to regional, primarily resulting from vegetation trampling from dispersed off-trail use and sensory-based disturbances and habitat fragmentation from designated trail use. The beneficial impacts would be long-term negligible to moderate and local to regional, primarily resulting from the protection of sensitive resources in recreation areas, the new vista management strategy, and management efforts to address resource threats such as invasive plants, poaching, and boundary encroachment.

**Cumulative Effects.** The ongoing development of private lands throughout the region is causing extensive fragmentation of vegetation and wildlife communities adjacent to the Roanoke, Plateau, and Highlands segments of the parkway. Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments are gradually separating the natural communities of the parkway from broader regional ecosystems, leaving portions of the parkway as narrow corridors of refugia for plants and animals. As habitat fragmentation continues, it has the potential to cause long-term moderate adverse regional impacts on the long-term viability and integrity of vegetation and wildlife across the parkway and regional ecosystems at large.

Conversely, the extensive network of national forests, state parks, and privately owned protected areas adjacent to the Ridge, Black Mountain, and Pisgah segments of the parkway and two national parks on either end (i.e., Shenandoah and Great Smoky Mountains) enhance regional efforts to

conserve the southern Appalachian's broader vegetation and wildlife communities. Without these lands, the entire stretch of the parkway would be susceptible to adjacent development. This system of public and private lands would continue to result in long-term moderate beneficial regional effects on these vegetation and wildlife resources.

On parkway lands, there has been some disruption of native vegetation and wildlife from past development of the designed landscapes, roads, and facilities that are associated with visitor services and parkway operations. However, most of these developments have been in place for decades and ongoing activities within these areas are not expected to further degrade vegetation and wildlife resources of the parkway; the designed landscapes would not be expanded into the surrounding natural habitats.

These past, present, and reasonably foreseeable future actions result in long-term moderate adverse regional impacts and long-term moderate beneficial regional cumulative impacts on vegetation and wildlife. Impacts from the ongoing implementation of the no-action alternative, combined with these other impacts, would result in long-term minor to moderate adverse local to regional impacts and long-term minor to moderate beneficial local to regional cumulative effects. This alternative's contribution to these cumulative effects would be relatively small.

**Conclusion.** Alternative A would continue to have long-term minor to moderate adverse local to regional impacts on the vegetation and wildlife communities of the parkway. This alternative would also continue to have long-term negligible to moderate beneficial local to regional impacts on these resources. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described previously, would result in long-term minor to moderate adverse local to regional impacts and long-term minor to moderate beneficial local to regional cumulative effects. This alternative's contribution to these effects would be relatively small.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** Alternative B would provide a more ecosystem-based approach to managing the parkway's natural resources than under the no-action alternative. This would include parkway-wide and regional strategies that emphasize multiyear projects to protect, restore, and enhance vegetation and wildlife communities. This long-term, comprehensive approach would be more proactive in nature, rather than one that reacts to site-specific impacts as they occur. As a result, some areas of the parkway would be managed differently to address natural resource concerns. For example, areas traditionally managed for scenery, such as roadsides, vista clearings, and agricultural leases, could be modified in certain areas to better protect native plants and animals. A possible way to achieve this would be to install riparian fencing along certain agricultural lease areas to protect streamside vegetation from livestock trampling. Mowing schedules along certain roadsides could also be modified in order to allow native plants to seed before they are cut. These alternative management approaches would be fairly inconspicuous to the average visitor, yet they would help to improve the overall natural resource integrity of the parkway.

Under alternative B, the parkway's land protection strategy would be expanded to include the additional option of acquiring interests in adjacent lands to protect natural resources (including vegetation and wildlife communities), rather than just for scenery and access management purposes. This would allow for a strategy that evaluates the natural resource merits of a property when it becomes available from a willing seller. This would help to ensure that opportunities to acquire properties that contribute to the greater natural resources of the parkway are not overlooked. In addition to this prioritization of natural resource values in land preservation efforts, alternative B would guide NPS staff to proactively seek out willing sellers of high-priority private parcels in the region. Overall, this new strategy for land protection would result in a long-term minor to moderate

beneficial local to regional impact on vegetation and wildlife habitat. However, the realized benefits from this new strategy would be based on the resource values of properties acquired in the future, as well as their proximity to important resources within the parkway.

This alternative would also look beyond the boundaries of the parkway to develop a more regional and collaborative approach to natural resource management. By expanding partnerships with private landowners, nonprofit organizations, local governments, and state and federal agencies, management would have greater opportunities to address the broader natural resource issues facing the parkway and the region. For example, the issue of invasive species is not isolated to the parkway. The entire southern Appalachian Mountain region has been widely affected by a number of different plant diseases, pest infestations, and exotic weeds (e.g., chestnut blight and the balsam and hemlock woolly adelgids). Because of this, a collaborative approach at the regional level would be more effective at controlling the spread of invasive species. Another regional issue that would be better addressed through partnerships is habitat fragmentation as a result of rapid growth and development. This is not only occurring directly adjacent to the parkway, but also to private family farms and other open space in the region that characterizes the southern Appalachian Mountains. This collaborative approach to natural resource management would result in long-term minor to moderate beneficial and local to regional impacts on vegetation and wildlife habitat.

As described under alternative A, certain impacts on vegetation and wildlife (i.e., vegetation loss, habitat fragmentation, and sensory-based disturbances) would continue to occur under alternative B. Boundary encroachments (e.g., illegal fences, roads, structures) and illegal activities (e.g., off-road vehicles and poaching) would continue to result in local adverse impacts due to the difficulty of enforcing regulations across such an expansive parkway. However, the more proactive, comprehensive approach to natural

resource management under this alternative would likely address these issues more expeditiously or more comprehensively, and thus, result in a long-term negligible to minor beneficial local to regional impact.

Equally, certain benefits to vegetation and wildlife that have occurred under the current management approach would continue under alternative B. For example, all state-designated natural heritage areas, globally ranked natural communities, and other known ecologically sensitive areas within the parkway would continue to be protected to the fullest extent under NPS policy.

One of the primary differences between current management and alternative B is the addition of management zones, which are used to prescribe desired resource conditions and visitor experiences on different areas of the parkway. For example, to further emphasize the protection of the rare natural communities described previously, the special natural resource zone designation would be applied to 10,068 acres (12.2%) of parkway lands under this alternative. This zone prescribes the highest level of protection, an extremely low tolerance for resource degradation, and very low visitor use levels. Other levels of resource protection would be provided by the natural zone designation, which would be applied to 19,491 acres (23.7%) of parkway lands under alternative B. The proposed protective zones under alternative B (natural and special natural resource zones) would result in long-term minor to moderate beneficial local to regional impacts on vegetation and wildlife habitat.

Of the other management zones under alternative B, the recreation zone has the potential to affect the vegetation and wildlife resources across the largest portion of the parkway. Under alternative B, 10,139 acres (12.3%) of parkway lands would be designated as recreation zone in order to enhance outdoor recreational opportunities for visitors. This would be primarily accomplished by accommodating a wider range of trail-based recreational activities, which would likely attract more visitors to

these parkway lands. Certain trails would be improved to allow for expanded recreational opportunities and/or increased use. Additional backcountry campsites, picnic tables, restrooms (i.e., vault toilets), and interpretive media would also be found within these areas. Expanding or improving these amenities and services would result in resource modifications that would be aesthetically blended with the natural environment. However, some adverse impacts would occur, such as vegetation loss, wildlife habitat alterations, and the increased potential for the spread of invasive species. Increased sensory-based disturbances to wildlife would also result from more visitors to these less accessible areas of the parkway.

Although the recreation zone would bring about increases in visitor use, it would not occur across every acre of these lands. In fact, the majority of areas zoned recreation would still be managed in a pristine, natural state. Only trail corridors and other small recreational developments would be allowed, minimizing the actual footprint of these modifications and the distribution of visitors throughout these areas. The recreation expansions and enhancements allowed by the proposed recreation zone would result in long-term minor to moderate adverse local impacts.

Another aspect of alternative B that would impact vegetation communities of the parkway includes campground amenity upgrades. Under this alternative, all of the parkway's nine campgrounds would be upgraded to provide showers and RV water and electrical hookups, which would require expanded sewage treatment facilities and electrical lines. As a result, vegetation and wildlife communities in and around these campgrounds would be adversely affected during the construction phase. Permanent adverse impacts on local vegetation and wildlife communities would also result from the additional permanent structures associated with expanded sewage treatment. These effects would result in short- and long-term minor to moderate adverse local impacts on vegetation and wildlife habitat.

Overall, at the parkway-wide level, alternative B would emphasize an ecosystem-based management approach, an expanded and proactive land protection strategy, regional partnerships and collaboration with other land management agencies, and management zones that emphasize desired resource conditions. Collectively, these actions would result in long-term minor to moderate beneficial local to regional effects to the overall vegetation and wildlife communities along the parkway. However, applying the recreation zone across such a large percentage of the parkway, as well as upgrading certain campground facilities, would offset some of these broader benefits with short- to long-term minor to moderate adverse local impacts.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 1: Ridge*—Although the extent of this segment would be zoned historic parkway and scenic character under alternative B, no parking or trail connectors would be provided to accommodate regional trail use on the adjacent U.S. Forest Service lands. Thus, vegetation trampling by vehicles, mountain bikes, and hikers would continue to occur, as described under the no-action alternative.

*Segments 1 and 2: Ridge and Roanoke*—Under alternative B, minor modifications of overlook pullouts along these segments of the parkway would result in short-term negligible adverse very local impacts on vegetation or wildlife. These actions would have negligible effects because overlook pullout areas along the parkway are already highly modified environments that would not be noticeably degraded by minor design changes.

*Segments 4, 5, and 7: Highlands, Black Mountain, and Pisgah*—Under alternative B, the special natural resource zone buffering the parkway along portions of segments 4, 5, and 7 above 4,000 feet in elevation would have long-term moderate beneficial local to regional effects on globally imperiled, high-elevation spruce/fir forests. These benefits are

due in part to a modified vista management strategy that emphasizes protection of ecological values in balance with maintaining scenic viewsheds. As a result, vistas and overlooks would be thinned rather than entirely cleared out to improve habitat connectivity. Other benefits to vegetation and wildlife communities that would result from this zoning approach include management activities that emphasize research, inventorying, monitoring, exotic species eradication, and other types of resource stewardship.

*Segment 6: Asheville*—Under alternative B, the parkway would provide designated parking spaces for visitors accessing trail systems along the Asheville segment of the parkway. This would reduce the effects of vegetation damage along the road shoulder caused by the high frequency of vehicles currently parking in unpaved areas. If parking areas reduced the extent of vegetation damage by confining vehicles to smaller designated areas, there would be long-term minor beneficial local impacts on plant communities.

*Segment 7: Pisgah*—Alternative B would also emphasize partnerships and collaboration with other land management agencies to develop regional strategies for managing invasive plants. These efforts would help further protect the sensitive and imperiled vegetation communities along segment 7 (in addition to managing these areas as a special natural resource zone). This would have long-term minor to moderate beneficial local effects on vegetation and wildlife habitat in segment 7.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

*Humpback Rocks*—Under alternative B, low- and high-elevation barren rock outcrops would receive both long-term minor beneficial and adverse impacts resulting from trail-related impacts. By zoning the area surrounding the Humpback Rocks trail

system as recreation, management would improve trail designs to more effectively manage visitor access and circulation throughout the area. This would reduce the proliferation of social trails and off-trail use, resulting in fewer trampling impacts on rare plant communities. However, improving recreation infrastructure in the area would likely increase visitor use, resulting in a higher potential for such impacts, as well as disturbances to wildlife. This may be compounded by the fact that the recreation zone allows for a moderate tolerance for natural resource impacts in order to accommodate visitor use, resulting in long-term minor adverse local impacts.

In addition, long-term moderate adverse local effects would also result from the extension of the visitor season from six months under alternative A to nine months under alternative B. Because the three-month extension of visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration, and possibly the overall extent, of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

*James River/Otter Creek*—Under alternative B, and similar to Humpback Rocks, some long-term moderate adverse local effects would result from the extension of the visitor season from six months under alternative A to nine months under alternative B. Because the three-month extension of visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration and possibly the overall extent of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in

the park, which would likely limit disturbances from unmonitored visitation.

In addition, the proposed hiking trail realignment in the vicinity of the lake and restaurant and the possibility for expanded trail uses in this area (i.e., both hiking and equestrian use) could also have long-term minor to moderate adverse local effects on vegetation and wildlife.

*Peaks of Otter*—Under alternative B, and similar to Humpback Rocks and James River/Otter Creek, some long-term moderate adverse local effects would result from the three-month extension of the visitor season from six months under alternative A to nine months under alternative B. Because the extension of visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration and possibly the overall extent of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

*Blue Ridge Music Center*—Under alternatives B and C, the special natural resource zone would have long-term moderate beneficial local effects on rare plant communities in the bottomlands of Chestnut Creek. However, the intensive level of use and development in such close proximity to this sensitive area may prove difficult to manage. For instance, visitors may wander from the adjacent visitor services zone into this area, causing vegetation trampling and wildlife disturbances. As a result, there may be some long-term minor adverse local impacts.

*Doughton Park*—Under alternatives B and C, the fields at Brinegar Cabin would be managed to replicate the historic landscape of this 125-acre farm. To achieve this, Table Mountain pine, an endemic species, would be removed, resulting in long-term minor to moderate adverse local impacts on this native species.

Because Table Mountain pine is restricted to dry ridges and slopes of the Appalachians, removing them from the fields at Brinegar Cabin would further reduce the extent of their habitat.

Also under both action alternatives, the majority of Doughton Park would be zoned natural, resulting in the same parkway-wide benefits described previously. However, designating multiple use trails for horseback riding and hiking and providing equestrian backcountry campsites would cause some long-term minor adverse local impacts on vegetation communities of the Basin Cove watershed, including vegetation loss and greater potential to introduce nonnative species to the area, resulting from off-trail use and horse manure. Constructing additional trailhead parking to accommodate horse trailers would also cause local habitat degradation.

Under alternatives B and C, the recreation zone along the upper portion of the watershed would likely attract a greater number of visitors, especially if additional “leg-stretcher” trails are developed. These shorter trails are in demand, because Doughton Park mostly provides opportunities for long-distance backcountry hiking. New trail-related developments in this area could inadvertently increase access to low-elevation rocky summits and other ecologically sensitive areas and increase the establishment and spread of invasive species. New developments could also make it more difficult to carry out prescribed fire to maintain fire-dependent plant communities. As a result, there is a potential for short- and long-term minor adverse local impacts.

*Julian Price Park*—Under alternative B, the majority of Julian Price Park would be zoned either natural or special natural resource. These two zones afford vegetation and wildlife communities of the parkway the most protection by emphasizing an integrated natural resource management approach. These zones allow for low or extremely low tolerances for resource impacts, as well as prescribe low or very low visitor use levels.

Because of this, the area’s old-growth hemlock forest, globally ranked wetlands, and other rare vegetation and wildlife communities would receive long-term moderate beneficial local effects.

Adverse impacts, in addition to those described under the parkway-wide section, include relocation of the picnic area along Boone Fork. Although the picnic area at its current location is causing moderate adverse impacts on floodplain and riparian resources along the stream, relocating it to a nearby field on higher ground would transfer some impacts on this new (but already disturbed) area. Construction of a picnic area of comparable size and with similar amenities (e.g., comfort stations, parking areas, drinking water, and septic system) to the one along Boone Fork would cause short-term moderate adverse local impacts on the nonnative grassland near Old John’s River Road. Long-term minor adverse local impacts would also result from the operation and use of the new picnic area, which would be zoned visitor services under this alternative. Benefits to the floodplain and riparian resources of Boone Fork from relocating the picnic area can be found in the “Water-related Resources” section of this chapter.

*Linville Falls*—Under alternative B, the area surrounding the Linville Falls trail system would be zoned recreation. This would result in trail improvements designed to better accommodate heavy visitor use to this area. With a better designed trail system, the ongoing proliferation of social trails and off-trail use would be reduced, lessening the amount of trampling to understory vegetation in this old-growth hemlock forest. These trail modifications would result in long-term negligible to minor beneficial local effects. However, these benefits would be offset by greater number of visitors attracted to the area’s improved amenities. More visitors on the trails would increase the potential for disturbance to wildlife, resulting in long-term minor adverse local impacts.

In addition, similar to some other recreation areas, long-term moderate adverse local

effects would also result from the extension of the visitor season from six months under alternative A to nine months under alternative B. Because the three-month extension of visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration and possibly the overall extent of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

**Craggy Gardens**—Under alternative B, globally imperiled grassy bald habitat at Craggy Gardens would be restored to its historic size and actively maintained. Removing successional plant growth from this rare plant community would result in long-term moderate beneficial local effects.

Under this alternative, closing the Craggy Pinnacle trail and overlooks would reduce trampling of adjacent rare plant communities from off-trail visitor use, including grassy balds, heath balds, and high-elevation rocky outcrops. Providing a new hiking trail to Craggy Dome may result in similar impacts on rare plant communities, although there are fewer rare plant communities there. The net impacts of the trail closure and the new trail could be adverse, at least until the trail has revegetated, if visitors are noncompliant with the trail closure to Craggy Pinnacles and continue to use it. Construction of the new trail to Craggy Dome may result in short-term moderate adverse local impacts on rare plant communities, although it may be possible to design it in a way that avoids sensitive habitats.

The combination of these disturbances would result in short- and long-term moderate adverse local impacts on the vegetation communities of Craggy Gardens. There would be long-term minor to moderate beneficial local effects to the plant communities on Craggy Pinnacle after the trail has been closed and rehabilitated.

**Mt. Pisgah**—Under alternative B, the cultural landscape at Buck Spring Lodge would be restored by clearing native vegetation that has encroached on the area since the hunting lodge was removed in the early 1960s. The vegetation type in this area is predominately high-elevation red oak forest. This plant community was originally cleared from the site in the early 1900s when the lodge was built, and then began to reestablish itself 40 to 50 years ago when the lodge was torn down. Because this community occurs on most of the major mountain ranges of the southern Appalachians, it is not considered exceptionally rare. Because the vegetation clearing would occur in the immediate area surrounding the lodge ruins, there would be long-term minor adverse local impacts on this plant community. Additional clearing may also increase the occurrence of invasive plants at this site.

Also, some long-term minor to moderate beneficial local effects on the plant community and wildlife habitat would occur as a result of the closure and rehabilitation of all tent campsites that are directly adjacent to the bog. Visitor use in sensitive resource areas near the bog would also be restricted to trails. These actions would help restore and/or protect some of the vegetation communities and wildlife habitat associated with the bog area.

Overall, across the entire parkway, its segments, and recreation areas, alternative B would result in both adverse and beneficial effects on the vegetation and wildlife communities of the parkway. The adverse impacts would be short- and long-term minor to moderate and local, primarily resulting from increased recreational use zones, habitat fragmentation and sensory disturbances from trail development and use, and extended visitation seasons at some recreation areas. The beneficial impacts would be long-term negligible to moderate local to regional, primarily resulting from ecosystem-based management, expanded land protection strategies, regional land management partnerships (e.g., to address invasive plant control), new natural and special natural

zoning, closed trails in sensitive areas, designated parking at recreation areas, increased NPS presence at some recreation areas during the extended visitation season, and improvements in enforcement of illegal activities such as poaching.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” section of alternative A would be the same under this alternative, resulting in long-term moderate adverse regional impacts and long-term moderate beneficial regional impacts on vegetation and wildlife. Impacts from implementation of alternative B, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial and local to regional cumulative impacts. This alternative’s contribution to these adverse cumulative effects would be relatively small. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

**Conclusion.** Alternative B would have short- and long-term minor to moderate local adverse impacts and long-term negligible to moderate local to regional beneficial impacts on the vegetation and wildlife communities of the parkway. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative’s contribution to these adverse cumulative effects would be relatively small. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem

management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

### Alternative C

**Parkway-wide.** Under alternative C, the parkway’s vegetation and wildlife communities would see many of the same benefits described previously for alternative B. These advantages would result from an ecosystem-based approach that emphasizes parkway-wide and regional management strategies and multiyear projects to protect and restore native habitats. As with both of the other alternatives, this alternative would equally protect all state-designated natural heritage areas, globally ranked natural communities, and other known ecologically sensitive areas within the parkway.

As under alternative B, the parkway’s land protection strategy would be expanded under alternative C to include the additional option of acquiring interests in adjacent lands to protect natural resources (including vegetation and wildlife communities), rather than just for scenery and access management purposes. This would allow for a strategy that evaluates the natural resource merits of a property when it becomes available from a willing seller. This would help to ensure that opportunities to acquire properties that contribute to the greater natural resources of the parkway are not overlooked. In addition to this prioritization of natural resource values in land preservation efforts, alternative C would guide NPS staff to proactively seek out willing sellers of high-priority private parcels in the region. Overall, this new strategy for land protection would result in a long-term minor to moderate beneficial local to regional impact on vegetation and wildlife habitat. However, the realized benefits from this new strategy would be based on the resource values of properties acquired in the future, as well as their proximity to important resources within the parkway.

Alternative C goes beyond the other alternatives to protect the broader vegetation



and wildlife communities of the parkway through its management zoning approach. Under this alternative, 26,889 acres (32.7%) of the parkway would be zoned natural, which emphasizes greater protection of natural resources than any of the other zones except for the special natural resource zone. The amount of parkway land zoned natural under alternative C is greater than the amount zoned natural under alternative B (19,491 acres). The amount of parkway land that is zoned special natural resource is the same under alternatives B and C. With less emphasis on providing recreational opportunities for visitors and a lower tolerance for resource impacts, the natural zone would focus on managing for a more pristine environment across a greater portion of the parkway. The emphasis on natural resource preservation in the proposed zoning under alternative C (natural and special natural resource zones) would result in long-term moderate beneficial local to regional impacts on vegetation and wildlife habitat.

As in alternative B, this alternative would look beyond the boundaries of the parkway to develop a more regional and collaborative approach to natural resource management. By expanding partnerships with private landowners, nonprofit organizations, local governments, and state and federal agencies, management would have greater opportunities to address the broader natural resource issues facing the parkway and the region. For example, the issue of invasive species is not isolated to the parkway. The entire southern Appalachian Mountain region has been widely affected by a number of different plant diseases, pest infestations, and exotic weeds (e.g., chestnut blight and the balsam and hemlock woolly adelgids). Because of this, a collaborative approach at the regional level would be more effective at controlling the spread of invasive species. Another regional issue that would be better addressed through partnerships is habitat fragmentation as a result of rapid growth and development. This is not only occurring directly adjacent to the parkway, but also to private family farms and other open space in the region that characterizes the southern

Appalachian Mountains. This collaborative approach to natural resource management would result in long-term minor to moderate beneficial local to regional impacts on vegetation and wildlife habitat.

As with alternative A, certain impacts on vegetation and wildlife (i.e., vegetation loss, habitat fragmentation, and sensory-based disturbances) would continue to occur under alternative C. Boundary encroachments (e.g., illegal fences, roads, structures) and illegal activities (e.g., off-road vehicles and poaching) would continue to result in local adverse impacts due to the difficulty of enforcing regulations across such an expansive parkway. However, the more proactive, comprehensive approach to natural resource management under this alternative would likely address these issues more expeditiously or more comprehensively, and thus, result in a long-term negligible to minor beneficial local to regional impact.

This alternative would, however, bring about some adverse impacts, namely those associated with expanded amenities in the visitor services zone. Alternative C would result in the greatest level of upgrades and redesigns to portions of seven of the parkway's nine campgrounds (excluding Roanoke and Mt. Pisgah). Expanded sewage treatment facilities, electrical lines, and wider roads would cause long-term minor to moderate adverse local impacts on vegetation and wildlife communities in and around these campgrounds. Short-term minor to moderate adverse local impacts would also occur during the construction phase for these improvements. In addition, because more visitors would likely be attracted by these new amenities, there would be an increased potential for visitor-related disturbances to wildlife, another long-term minor to moderate adverse local effect.

Overall, at a parkway-wide level, alternative C would emphasize an ecosystem-based management approach, expanded land protection strategy, regional partnerships, and zoning of a large portion of the parkway as natural. Collectively, these actions would

result in long-term minor to moderate beneficial local to regional effects to the overall vegetation and wildlife communities along the parkway. However, the considerable upgrade of seven of the nine parkway campground facilities would offset some of these broader benefits with short- to long-term minor to moderate adverse local impacts.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 1: Ridge*—Under alternative C, the parkway would provide paved parking spaces for visitors accessing trails on adjacent U.S. Forest Service land. This would reduce the effects of vegetation trampling caused by the regular occurrence of vehicles that park in this undesignated area. As a result, there would be long-term minor beneficial local impacts on vegetation in this immediate area.

*Segments 1 and 2: Ridge and Roanoke*—Under alternative C, the substantial redesign of certain overlook pullouts along these segments of the parkway to enhance the visibility of parking areas would further alter these already modified environments. In the short term, construction would require the use of large earth-moving equipment, temporarily disrupting wildlife movement through these sites and leading to the loss of some vegetation, resulting in moderate adverse local impacts. Over the long term, “opening up” these overlooks to passing traffic would further fragment plant communities and increase sensory-based disturbances to wildlife, resulting in moderate adverse local impacts on vegetation and wildlife.

*Segments 1, 2, 4, and 6: Ridge, Roanoke, Highlands, and Asheville*—Under alternative C, a paved multiuse trail would be developed parallel to the parkway along portions of the Ridge, Roanoke, Highlands, and Asheville segments. This path would be separate from the roadway to minimize interaction between pedestrians/bicyclists and automobiles and to maintain the historic integrity of the

parkway’s designed landscapes. Along each of these segments, the trail would extend 11 to 16 miles for a total distance of 53 miles. Because the exact location of the trail has not been identified along any of these segments, it is difficult to determine the type and intensity of impacts on vegetation and wildlife. For this reason, impacts are analyzed in general qualitative terms. If and when any portion of the trail is proposed for implementation, additional appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act.

As with any new trail construction, the paved multiuse trail would cause some habitat fragmentation. This is especially true because of the separation needed between the roadway and the path for reasons described previously. Consequently, a narrow strip of forest, rock outcropping, mountain slope, or other natural feature would be used to screen the path from motorists traveling the parkway. As a result, the path could disrupt the links between habitats, potentially isolating plant populations or restricting the movement of small animals. Other potential impacts include the spread of invasive species, increased poaching, and greater disturbance to wildlife—all of which have been attributed to increased public access and use of an area.

The severity of these impacts could be lessened by strategically aligning the trail through the varying landscapes along the parkway corridor. The National Park Service completed a feasibility study (February 2005) to determine the most appropriate segments of the parkway on which to construct a multiuse trail. The study found that the proposed trail sections described previously would be in areas where generally only minor impacts would be necessary to overcome physical constraints (e.g., steep ridge slopes, unreasonable profile grades, and viewshed issues). However, more substantial impacts would be necessary along very short distances to overcome large obstacles. In these cases, additional tunnels and bridges may be required. Furthermore, a large portion of the proposed trail would be constructed along

portions of the parkway that pass through highly developed urban areas such as Roanoke and Asheville. These areas are already highly modified environments that would not be noticeably degraded by a multiuse trail. As a result, the multiuse trail segments proposed under this alternative could possibly cause long-term minor to moderate adverse local to regional impacts on vegetation and wildlife communities of the parkway.

**Segments 4, 5, and 7: Highlands, Black Mountain, and Pisgah**—As in alternative B, the special natural resource zone buffering the parkway along portions of segments 4, 5, and 7 above 4,000 feet in elevation would have long-term moderate beneficial local to regional effects on globally imperiled, high-elevation spruce/fir forests. These benefits are due in part to a modified vista management strategy that emphasizes protection of ecological values in balance with maintaining scenic viewsheds. As a result, vistas and overlooks would be thinned rather than entirely cleared out to improve habitat connectivity. Other benefits to vegetation and wildlife communities that would result from this zoning approach include management activities that emphasize research, inventorying, monitoring, exotic species eradication, and other types of resource stewardship. Because the special natural resource zone is the same under alternatives B and C, the beneficial effects from both alternatives would be equal.

**Segment 6: Asheville**—Under alternative C, the parkway would provide designated parking spaces for visitors accessing trail systems along the Asheville segment of the parkway. This would reduce the effects of vegetation damage along the road shoulder caused by the high frequency of vehicles currently parking in unpaved areas. As a result, there would be long-term minor beneficial local impacts on plant communities.

**Segment 7: Pisgah**—Similar to alternative B, alternative C would also emphasize partnerships and collaboration with other land management agencies to develop

regional strategies for managing invasive plants. These efforts would help further protect the sensitive and imperiled vegetation communities along segment 7 (in addition to managing these areas as a special natural resource zone). This would have long-term minor to moderate beneficial local effects on vegetation and wildlife habitat in segment 7.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

**Humpback Rocks**—Under alternative C, low and high-elevation barren rock outcrops would receive long-term, minor beneficial local effects by reducing trail-related impacts. By zoning the majority of Humpback Rocks as natural, visitor use would be managed at low levels to avoid further degradation of these rare plant communities. Any sites that have been impacted by social trails and off-trail use would be restored in order to reestablish natural systems and processes associated with these rare habitats. However, under this alternative, some long-term minor to moderate adverse local effects would result from the development of a paved, multiuse trail parallel to the parkway. The trail and its use would displace vegetation in this area and fragment and disturb wildlife habitat. These adverse effects may be compounded by the fact that the recreation zone (which accommodates this trail) allows for a medium tolerance for natural resource impacts in order to accommodate visitor use.

In addition, long-term moderate adverse local effects would also result from the extension of the visitor season from 6 months under alternative A to 12 months under alternative C. Because the year-round visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration, and possibly the overall extent, of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects,

because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

*James River/Otter Creek*—As in alternative B, the proposed hiking trail realignment in the vicinity of the lake and restaurant and the possibility for expanded trail uses in this area (i.e., both hiking and equestrian use) could also have long-term minor to moderate adverse local effects on vegetation and wildlife.

*Peaks of Otter*—Under alternative C, and similar to Humpback Rocks, some long-term moderate adverse local effects would result from the extension of the visitor season from 6 months under alternative A to 12 months under alternative C. Because the year-round visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration and possibly the overall extent of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

*Roanoke Mountain*—Under alternative C, some long-term minor to moderate adverse local effects would result from the development of a paved, multiuse trail parallel to the parkway and to Mill Mountain Spur Road. The trails and their use would displace vegetation in this area and fragment and disturb wildlife habitat. These paths would be separated from the roadways to minimize interaction between bicyclists and automobiles and to maintain the historic integrity of the parkway's designed landscapes. Because the exact location of the trail has not been identified along this segment of the parkway and in this park, it is difficult to determine the intensity of impacts on vegetation and wildlife. If any portion of the trail is proposed for implementation, then additional appropriate environmental compliance documentation would be

prepared in accordance with the National Environmental Policy Act. These adverse effects may be compounded by the fact that the recreation zone (which accommodates this trail) allows for a moderate tolerance for natural resource impacts in order to accommodate visitor use.

*Mabry Mill*—Under alternative C, and similar to Humpback Rocks and Peaks of Otter, some long-term moderate adverse local effects would result from the extension of the visitor season from 6 months under alternative A to 12 months under alternative C. Because the year-round visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration and possibly the overall extent of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

*Blue Ridge Music Center*—Under alternatives B and C, the special natural resource zone would have long-term moderate beneficial local effects on rare plant communities in the bottomlands of Chestnut Creek. However, the intensive level of use and development in such close proximity to this sensitive area may prove difficult to manage. For instance, visitors may wander from the adjacent visitor services zone into this area, causing vegetation trampling and wildlife disturbances. As a result, there may be some short- and long-term minor adverse local impacts.

*Doughton Park*—Under alternatives B and C, the fields at Brinegar Cabin would be managed to replicate the historic landscape of this 125-acre farm. To achieve this, Table Mountain pine, an endemic species, would be removed, resulting in long-term minor to moderate adverse local impacts on this native species. Because Table Mountain pine is restricted to dry ridges and slopes of the Appalachians, removing them from the fields at Brinegar

Cabin would further reduce their available habitat.

Also under both action alternatives, the majority of Doughton Park would be zoned natural, resulting in the same parkway-wide benefits described previously. However, designating multiple use trails for horseback riding and hiking and providing equestrian backcountry campsites would cause some long-term minor adverse local impacts on vegetation communities of the Basin Cove watershed, including vegetation loss and greater potential to introduce nonnative species to the area, resulting from off-trail use and horse manure. Constructing additional trailhead parking to accommodate horse trailers would also cause local habitat degradation.

Under alternatives B and C, the recreation zone along the upper portion of the watershed would likely attract a greater number of visitors, especially if additional “leg-stretcher” trails are developed. These shorter trails are in demand, because Doughton Park mostly provides opportunities for long-distance backcountry hiking. New trail-related developments in this area could inadvertently increase access to low-elevation rocky summits and other ecologically sensitive areas and increase the establishment and spread of invasive species. New developments could also make it more difficult to carry out prescribed fire to maintain fire-dependent plant communities. As a result, there is a potential for short- and long-term minor adverse local impacts.

*Julian Price Park*—Under alternative C, the recreation zoned portion of Julian Price Park would provide the potential for mountain biking opportunities on certain designated trails, as well as the potential to designate a backcountry campsite near Hebron Falls. Additional infrastructure and improvements would be needed to accommodate these uses, resulting in some resource modifications (i.e., trail improvements and pit toilets). More visitors would be expected due to the new recreational opportunities provided. These changes could bring about long-term minor

adverse local impacts on vegetation and wildlife communities as a result of vegetation loss, wildlife habitat alterations, increased sensory-based disturbances to wildlife, and the increased potential for the spread of invasive species.

On the other hand, designating a backcountry campsite with a toilet facility at Hebron Falls would reduce trampling impacts and water quality degradation (which impact aquatic fauna) that continue to result from unregulated camping in this area. Also, the special natural resource zone that buffers the parkway along most of this area would provide additional protection of rare plant and animal communities. These changes would result in long-term minor beneficial local effects.

Also, under alternative C, some long-term moderate adverse local effects would result from the development of a paved, multiuse trail parallel to the parkway from the parkway’s eastern boundary in the Price Lake area. The trail and its use would displace vegetation in this area and fragment and disturb wildlife habitat. These adverse effects may be compounded by the fact that the recreation zone (which accommodates this trail) allows for a moderate tolerance for natural resource impacts in order to accommodate visitor use.

*Linville Falls*—Under alternative C, the area surrounding the Linville Falls trail system would be zoned natural. This zone has a low tolerance for resource impacts and prescribes low visitor use levels. Rather than redesign trails to accommodate heavy use, this alternative would allow for only minimal modifications to the environment and low-impact recreational use to avoid degrading the old growth hemlock forest. This shift in management emphasis would result in long-term, moderate, beneficial, local impacts on the area’s vegetation and wildlife communities.

Under this alternative, some adverse impacts could result from relocating the visitor contact station out of the floodplain by displacing

native vegetation. However, because the exact location of this new site has not been identified, it is difficult to determine the type and intensity of impacts on vegetation and wildlife at this time.

Under alternative C, as with some other recreation areas, long-term moderate adverse local effects would also result from the extension of the visitor season from 6 months under alternative A to 12 months under alternative C. Because the year-round visitor services would likely draw increased visitor use to the parkway during the extended months (relative to alternative A), the duration and possibly the overall extent of adverse visitor use impacts on vegetation and wildlife habitat in this area would also increase. Conversely, the extension of visitor services would also have long-term minor beneficial local effects, because it would extend NPS staff presence in the park, which would likely limit disturbances from unmonitored visitation.

*Craggy Gardens*—Under alternative C, globally imperiled grassy bald habitat at Craggy Gardens would be restored to its historic size and actively maintained. Removing successional plant growth from this rare plant community would result in long-term moderate beneficial local effects.

Under this alternative, improving methods to keep visitors on the Craggy Pinnacle trail and overlooks would reduce trampling of adjacent rare plant communities, including grassy balds, heath balds, and high-elevation rocky outcrops. Methods such as signs, physical obstructions, staffing, and education would all help to decrease these ongoing impacts; however, the true benefits of these actions would depend mostly on visitor compliance. Because there is little likelihood of full compliance, some ongoing impact would be expected. Because of this, these methods would have a long-term minor beneficial local effect.

*Mt. Pisgah*—As with alternative B, under alternative C, the cultural landscape at Buck Spring Lodge would be restored by clearing

native vegetation that has encroached on the area since the hunting lodge was removed in the early 1960s. The vegetation type in this area is predominately high-elevation red oak forest. This plant community was originally cleared from the site in the early 1900s when the lodge was built and then began to reestablish itself 40 to 50 years ago when the lodge was torn down. Because this community occurs on most of the major mountain ranges of the southern Appalachian Mountains, it is not considered exceptionally rare. Because the vegetation clearing would occur in the immediate area surrounding the lodge ruins, there would be long-term minor adverse impacts on this plant community. Additional clearing may also increase the occurrence of invasive plants at this site.

Also, some long-term minor beneficial local effects on the local plant community and wildlife habitat would occur as a result of the closure and rehabilitation of all tent campsites that are directly adjacent to the bog. Visitor use in sensitive resource areas near the bog would also be restricted to trails. These actions would help restore and/or protect some of the vegetation communities and wildlife habitat associated with the bog area.

Overall, across the entire parkway, its segments, and recreation areas, alternative C would result in both adverse and beneficial effects on the vegetation and wildlife communities of the parkway. The adverse impacts would be short- and long-term minor to moderate and local, primarily resulting from habitat fragmentation and sensory disturbances from new trail/facility development and use (including substantial campground upgrades and multiuse trail development in four segments) and extended visitation seasons at some recreation areas. The beneficial impacts would be long-term negligible to moderate and local to regional, primarily resulting from ecosystem-based management, a relatively large area zoned as natural or special natural zones, expanded land protection strategies, regional land management partnerships (e.g., to address invasive plant control), closed trails in sensitive areas, increased NPS presence at

some recreation areas during the extended visitation season, and improvements in enforcement of illegal activities such as poaching.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” section for alternative A would be the same under this alternative, resulting in long-term moderate adverse regional impacts on vegetation and wildlife. Impacts from alternative C, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts, and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative’s contribution to these adverse cumulative effects would be small. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

**Conclusion.** Alternative C would have short- and long-term minor to moderate and local adverse impacts and long-term negligible to moderate local to regional beneficial impacts on the overall vegetation and wildlife communities of the parkway. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative’s contribution to these adverse cumulative effects would be small. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

## FEDERAL AND STATE LISTED SPECIES

This impact topic includes threatened, endangered, and federal candidate species.

### Methods and Assumptions for Analyzing Impacts

Federal and state listed threatened and endangered species are addressed together in this section, because many of these species (1) have dual federal and state special status, (2) occur together in the same habitats, or (3) would be impacted similarly under each alternative. However, for federal listed and candidate species, impact thresholds are defined separately based on terminology from section 7 of the Endangered Species Act.

*No effect:* When a proposed action would not affect a federal listed species, candidate species, or designated critical habitat.

*May affect/not likely to adversely affect:* Effects on federal listed or candidate species are discountable (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated) or are completely beneficial.

*May affect/likely to adversely affect:* Adverse effects to a federal listed or candidate species may occur as a direct or indirect result of proposed actions and the effects are either not discountable or completely beneficial.

*Is likely to jeopardize proposed species/adversely modify proposed critical habitat:* The appropriate conclusion when the National Park Service or the U.S. Fish and Wildlife Service identifies situations in which the proposal could jeopardize the continued existence of a federal listed or candidate species or adversely modify critical habitat to a species within or outside parkway boundaries.

The following impact threshold definitions are used to describe the severity and magnitude of changes to federal and state listed species under each of the alternatives.

Each threshold definition references the Endangered Species Act determinations described previously for federal listed species.

**Negligible:** Adverse impact—There would be no observable or measurable impacts on federal or state listed species, their habitats (including critical habitat designated under the Endangered Species Act), or the natural processes sustaining them in the proposed project area. For federal listed species, this impact intensity would equate to a determination of “no effect” under section 7 of the Endangered Species Act.

**Beneficial impact—**There would be no observable or measurable impacts on federal listed species, their habitats, or the natural processes sustaining them in a parkway site. For federal listed species, this impact intensity would equate to a determination of “no effect” under section 7 of the Endangered Species Act.

**Minor:** Adverse impact—Impacts would not affect critical periods of life-cycle processes (e.g., reproduction) or their habitat. Individuals may temporarily avoid areas. Essential features of critical habitat would not be impacted. For federal listed species, this impact intensity would equate to a determination of “may affect / not likely to adversely affect” under section 7 of the Endangered Species Act.

**Beneficial impact—**Impacts would result in slight increases to viability of the species in the parkway as species-limiting factors (e.g., habitat loss, competition, and mortality) are kept in check. Nonessential features of critical habitat in a parkway site would be slightly improved. For federal listed species, this impact intensity would equate to a determination of “may affect / not likely to adversely affect” under section 7 of the Endangered Species Act.

**Moderate:** Adverse impact—Individuals may be impacted by disturbances that interfere with critical life-cycle processes or their habitat; however, the level of impact would not result in a physical injury, mortality, or

extirpation from the park. Some essential features of designated critical habitat would be reduced; however, the integrity of the habitat would be maintained. For federal listed species, this impact intensity would equate to a determination of “may affect / likely to adversely affect” under section 7 of the Endangered Species Act.

**Beneficial impact—**Impacts would result in slight increases to viability of the species in the parkway as species-limiting factors (e.g., habitat loss, competition, and mortality) are reduced. Some essential features of critical habitat would be improved. For federal listed species, this impact intensity would equate to a determination of “may affect / not likely to adversely affect” under section 7 of the Endangered Species Act.

**Major:** Adverse impact—Individuals may suffer physical injury or mortality or populations may be extirpated from the park. Essential features of designated critical habitat would be reduced affecting the integrity of the designated unit. For federal listed species, this impact intensity would equate to a determination of “may affect / likely to adversely affect” under section 7 of the Endangered Species Act.

**Beneficial impact—**Impacts would result in highly noticeable improvements to species viability, population structure, and species population levels in the park, as species-limiting factors (e.g., habitat loss, competition, and mortality) are eliminated. All essential features of critical habitat would be improved. For federal listed species, this impact intensity would equate to a determination of “may affect / not likely to adversely affect” under section 7 of the Endangered Species Act. Plants and animals that have federal and state “species of concern” status are not included as part of this environmental impact analysis. However, these species are protected under all of the management alternatives and general NPS policy. Examples of species of concern that inhabit parkway lands include the timber rattlesnake and Allegheny woodrat.



Due to the extensive poaching problem facing the parkway, this analysis does not describe the locations of federal or state listed species, because it could assist poachers in finding and illegally collecting these rare species. Because of this, the following analyses of potential impacts to listed species are presented on a parkway-wide basis without calling attention to any specific segment or site along the parkway. However, it should be noted that actions that are specific to particular recreation areas or parkway segments have been factored into the overall analyses of listed species. To help quantify potential effects on threatened and endangered species, the impact analyses are organized by the following impact categories: habitat alteration, habitat loss and fragmentation, sensory-based disturbances, and poaching.

### **Alternative A—No-action**

**Parkway-wide.** Under the no-action alternative, the parkway would continue to strive to protect federal and state listed threatened and endangered species. In many locations, these species would not be directly impacted under current management, because they occur away from existing developments and visitor use areas. For example, wetlands along the Blue Ridge Parkway provide important habitat for bog turtles, offering one of the last refuges where both the bog turtle and its habitat are protected in the southern Appalachians. Additionally, the restoration of rare habitats in select areas of the parkway, such as the grassy balds at Craggy Gardens, is having a beneficial effect on certain rare plant species. Because of these and other ongoing management strategies, many threatened and endangered species would continue to be protected, resulting in long-term moderate beneficial local to regional effects.

However, under the no-action alternative, potential adverse impacts on federal and state listed species would also continue. These impacts would be similar to those described in the “Vegetation and Wildlife” section. This is because many of parkway’s threatened and endangered species inhabit the same rare

plant communities discussed in that section. Similarly, the parkway’s limited number of natural resources staff would continue to constrain their ability to carry out a comprehensive recovery program for all threatened and endangered species. Without this level of active management, certain habitats would continue to decline because of the spread of invasive species or the lack of natural fire disturbances to prevent the encroachment of nonnative vegetation. An inability to substantially curtail poaching of rare species would also continue. These and other impacts are further discussed under the following categories, which are used to assess the environmental consequences of the alternatives: habitat alteration, habitat loss and fragmentation, sensory-based disturbances, and poaching.

**Habitat Alteration.** Habitat alterations are changes made to the environment that adversely affect ecosystem function, although not completely or permanently. An example of this type of impact specific to the parkway is the repeated trampling of rare plant species when hiking off trail or camping in undesignated areas. This can lead to the loss of one or more individuals of a species, which can in turn further impact the remaining population by making the habitat less suitable. Not only can this adversely impact entire plant communities, but also wildlife dependent on these habitats for survival. Under the no-action alternative, the following threatened and endangered species would continue to receive long-term minor adverse local impacts from repeated vegetation trampling at multiple local sites within the parkway: mountain avens, Heller’s blazing star, rock gnome lichen, and small whorled pogonia.

Another example specific to the parkway is the alteration of Carolina northern flying squirrel habitats to maintain overlooks and vistas. Under the no-action alternative, the parkway would implement its new vista management strategy within Carolina northern flying squirrel habitat. Of the 264 overlooks and vistas along this portion of the parkway, 115 of them have suitable habitat for

the flying squirrel. These areas would be managed by removing select red spruce, Fraser fir, yellow birch trees, and other woody vegetation as necessary to open up or to maintain the view while keeping enough trees so that squirrels can still glide from one tree to another. These trees are important for the squirrel not only for mobility, but also for nesting sites and food resources. Additionally, each site would be evaluated to see if the boundaries of the vista can be modified to reduce the total area cut without degrading the view.

Historically, any vegetation that was growing up and blocking views along the parkway was routinely cut down, resulting in substantial adverse impacts on the squirrel by reducing nesting sites, movement corridors, and foraging opportunities. However, the new strategy would be an improvement from the parkway's past vista management approach and would benefit flying squirrels at each vista. The amount of benefits would vary from site to site, depending on local natural conditions, size of the vista, and tree density. These management actions would likely result in long-term minor beneficial and local to regional impacts on flying squirrels overall.

Another type of habitat alteration is the spread of invasive species, which out-competes native vegetation and wildlife to the point where the overall composition of plant and animal communities changes. Under the no-action alternative, the control of invasive species would continue to be limited to specific sites, rather than across the entire parkway. These invasive species control actions would continue to have long-term negligible to minor beneficial local effects. However, the following threatened and endangered species would continue to be subject to considerable adverse effects from invasive species, such as the balsam woolly adelgid and the multiflora rose: bog turtle and swamp pink.

#### **Habitat Loss and Fragmentation.**

Habitat loss is defined as the complete elimination of a local or regional ecosystem leading to the total loss of its former biological function. Development of the nine

campgrounds of the parkway is an example of local habitat loss. Habitat fragmentation is a secondary effect of habitat loss. It occurs when populations of plants or animals are isolated because the links between their habitats have been destroyed. Road developments are a common example of habitat fragmentation and the original construction of the parkway is no exception. Under the no-action alternative, there are no current or future plans to expand the extent of these developments within the parkway. Therefore, no additional adverse impacts would occur beyond what took place during the initial construction of the parkway (see "Cumulative Effects" below).

#### **Sensory-based Disturbances.**

Disturbances to wildlife that are the result of noises, sights, or scents associated with visitor use are referred to as sensory-based disturbances. If these types of disturbances are intense or prolonged, they can lead to a population-level response, such as displacement or reduced reproductive success. An example of a sensory-based disturbance is frequent noise from passing vehicles that causes a bird species to abandon nearby nesting sites.

Threatened and endangered wildlife species that occur in close proximity to recreation developments of the parkway would continue to be affected by human-caused disturbances from parkway operations, vehicular traffic, and visitor use. Noise disturbances include maintenance equipment (e.g., mowers, chainsaws, chippers), vehicles (e.g., motorcycles, RVs, cars), generators, music, and human voices. Sight disturbances within the parkway occur primarily in the form of light pollution. Artificial light at nighttime from vehicles and campgrounds can cause varying levels of disturbance to wildlife, especially those that are nocturnal. Under the no-action alternative, the following threatened and endangered species would continue to be subject to long-term minor adverse local to regional impacts from these sensory-based disturbances within the parkway: Virginia big-eared bat, Indiana bat, and the northern saw-whet owl.

**Poaching.** Poaching is the illegal hunting, fishing, or harvesting of wild animals or plants. The wide-spread illegal collection of rare plants and animals within the parkway has the potential to substantially reduce the viability and recovery of many rare species. Under the no-action alternative, current park management efforts to curtail poaching activities would continue to have long-term negligible to minor beneficial local effects. However, given the limited effectiveness of this management effort and the pervasiveness of poaching, the following threatened and endangered species would continue to receive notable adverse impacts from poaching: bog turtle, Heller’s blazing star, and small whorled pogonia.

Overall, across the entire parkway, its segments, and recreation areas, alternative A would continue to result in both adverse and beneficial effects on the federal and state

listed threatened and endangered species of the parkway. The adverse impacts would be long-term minor and local to regional, primarily resulting from rare vegetation trampling from dispersed off-trail use and habitat disturbances from designated trail use. The beneficial impacts would be long-term negligible to minor and local to regional, primarily resulting from the protection or restoration of rare habitat areas, the new vista management strategy, and management efforts to address resource threats such as invasive plants, poaching, and boundary encroachment. For alternative A, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be *may affect / not likely to adversely affect*. The section 7 determinations for each individual federal listed threatened and endangered species are provided below in table 51.

**TABLE 51. POTENTIAL IMPACTS TO FEDERAL LISTED SPECIES OF THE BLUE RIDGE PARKWAY, ALTERNATIVE A**

Species	Federal Status	Endangered Species Act Determination
Virginia big-eared bat ( <i>Corynorhinus townsendii virginianus</i> )	Endangered	May affect / not likely to adversely affect
Carolina northern flying squirrel ( <i>Glaucomys sabrinus coloratus</i> )	Endangered	May affect / not likely to adversely affect
Gray bat ( <i>Myotis grisescens</i> )	Endangered	May affect / not likely to adversely affect
Indiana bat ( <i>Myotis sodalis</i> )	Endangered	May affect / not likely to adversely affect
Kirtland’s warbler ( <i>Dendroica kirtlandii</i> )	Endangered	No effect
Bog turtle ( <i>Clemmys (=Glyptemys) muhlenbergii</i> )	Threatened*	May affect / not likely to adversely affect
Roanoke logperch ( <i>Percina rex</i> )	Endangered	No effect
Mountain avens ( <i>Geum radiatum</i> )	Endangered	May affect / not likely to adversely affect
Swamp-pink ( <i>Helonias bullata</i> )	Threatened	May affect / not likely to adversely affect
Small whorled pogonia ( <i>Isotria medeoloides</i> )	Threatened	May affect / not likely to adversely affect
Heller’s blazingstar ( <i>Liatris helleri</i> )	Threatened	May affect / not likely to adversely affect

Species	Federal Status	Endangered Species Act Determination
Bog asphodel (Narthecium americanum)	Candidate	No effect
Rock gnome lichen (Gymnoderma lineare)	Endangered	May affect / not likely to adversely affect

\*Southern population of bog turtle (as found in park) is listed as Threatened due to similarity of appearance with northern population of the same species.

**Cumulative Effects.** Adverse impacts on the parkway’s threatened and endangered species occurred mostly during the initial construction of the parkway. Although environmental protection was taken into consideration during this early development phase, plant and animal inventories were not conducted prior to construction. As a result, the habitats of many rare species were likely adversely affected. This now makes it difficult to quantify the extent of these past impacts. However, it is easy to assume that the construction of 469 miles of roadway and the development of 15 recreation areas across sensitive, high-elevation habitats has had an adverse effect on threatened and endangered plants and animals.

Beyond the boundary of the parkway, ongoing development of private lands continues to cause habitat loss and fragmentation, leading to the isolation of many rare species within the parkway. Past land uses adjacent to the parkway have also had a cumulative effect on these species. For instance, logging has reduced spruce/fir forests in the southern Appalachians by about half, which has had a detrimental effect on threatened and endangered species, such as the Carolina northern flying squirrel. However, there are currently no substantial logging operations because most all of this habitat is either owned by government agencies (e.g., U.S. Forest Service) or private organizations that have conservation missions (e.g., The Nature Conservancy).

These past, present, and reasonably foreseeable future actions are having regional, long-term moderate adverse and beneficial effects on threatened and endangered species. The continuation of the no-action alternative,

when considered in combination with these other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse local to regional effects and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative’s contribution to these effects would be small.

**Conclusion.** Implementation of the no-action alternative would result in long-term negligible to minor local to regional beneficial effects on threatened and endangered species of the parkway from new vista management strategies and poaching and invasive plant controls. It would also have long-term minor adverse local to regional effects from sensory-based disturbances caused by park operations and visitor use and habitat alteration caused by recreational use (e.g., off-trail vegetation trampling). Impacts of the no-action alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse local to regional effects and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative’s contribution to these cumulative effects would be small.

For alternative A, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be *may affect / not likely to adversely affect*.

## Alternative B (NPS Preferred)

**Parkway-wide.** Under alternative B, federal and state listed threatened and endangered species would have many of the same broad effects described under the “Vegetation and Wildlife” section for this alternative. For example, this alternative’s more ecosystem-based approach would include parkway-wide and regional strategies that emphasize multiyear and multiagency projects to protect, restore, and enhance natural communities. This would also benefit threatened and endangered species that rely on these natural communities for their habitat.

Another similar benefit described under the “Vegetation and Wildlife” section for alternative B is the expanded scope of the parkway’s land protection strategy to include the option of acquiring interests in adjacent lands to protect natural resources. Properties that provide habitat for threatened and endangered species could be acquired from willing sellers, rather than just for scenery and access management purposes as stated in the no-action alternative. This new approach would allow for broader protection of critical habitats, especially those that straddle the parkway boundary. In addition, under alternative B, NPS staff would proactively seek out willing sellers of high-priority private parcels in the region to help protect sensitive habitat and/or maintain habitat connectivity.

Also, as described in the “Vegetation and Wildlife” section, the National Park Service would undertake a more regional approach to protecting threatened and endangered species by expanding partnerships with private landowners, land management agencies, and other organizations. This would benefit listed species by mounting recovery efforts for populations that extend beyond the boundary of the parkway and by limiting sensitive habitat fragmentation from surrounding developments.

Certain benefits to threatened and endangered species under current management would also continue under alternative B. For instance, all state-designated

natural heritage areas, globally ranked natural communities, and other ecologically sensitive areas that support special status species within the parkway would continue to be protected to the fullest extent. An additional benefit to these areas under alternative B would be the application of management zones, all of which include prescriptions that more proactively protect these areas.

To further emphasize the protection of habitats that support threatened and endangered species, the special natural resource zone would be applied to 10,068 acres (12.2%) of parkway lands under this alternative. An example of proactive management that would occur within this zone is the new vista management strategy designed to improve habitat for the Carolina northern flying squirrel. This new approach was recently initiated under the no-action alternative (NPS 2008a) and it would be carried forward under alternative B, resulting in continued beneficial impacts on flying squirrels.

Under alternative B, 10,139 acres (12.3%) of parkway lands would be zoned recreation in order to enhance outdoor recreational opportunities for visitors. Expanding or improving amenities and services within this zone would attract more visitors to less accessible areas of the parkway, increasing the likelihood of adverse impacts on threatened and endangered species. However, management prescriptions under the recreation zone state that any additional developments or use would be adapted as needed to protect threatened and endangered species.

As a result of this alternative’s more ecosystem-based management approach, expanded land protection strategy, and management zones that emphasize desired natural resource conditions, there would be long-term minor to moderate beneficial regional effects to threatened and endangered species.

Adverse impacts on threatened and endangered species would also occur under

alternative B. These impacts are assessed based on the following four categories: habitat alteration, habitat loss and fragmentation, sensory-based disturbances, and poaching. Please refer to these subheadings under alternative A for definitions of these impact categories.

**Habitat Alteration.** As stated previously, alternative B would apply the recreation zone across a large portion of the parkway, leading to expanded developments and increased visitor use in certain areas. More extensive trail systems, backcountry campsites, and other infrastructure could inadvertently alter habitats essential for threatened and endangered species. Additional hikers, mountain bikers, horseback riders, and campers could also alter these habitats by repeatedly trampling vegetation as a result of off-trail use. For example, without carefully considering the location of new trails, long-distance hikers in need of water could disturb streams, springs, and seeps that provide specialized habitats for a number of threatened and endangered mollusk and amphipod species. Another example of habitat alteration is the spread of invasive species unintentionally brought to a site during construction or recreational use. However, any development proposed under this alternative would require additional environmental compliance documentation, including Endangered Species Act section 7 consultation, prior to implementation in order to mitigate for these types of impacts. Also, as under the no-action alternative, alternative B would include the vista management strategy that incorporates habitat mitigation measures to protect Carolina northern flying squirrel habitat. Under alternative B, the following federal and state listed threatened and endangered species would be most vulnerable to these types of habitat alterations, potentially resulting in short- and long-term minor adverse local to regional impacts: mountain avens, rock gnome lichen, and small whorled pogonia.

**Habitat Loss and Fragmentation.** Under alternative B, strategies to expand recreational developments could result in the loss or

fragmentation of habitats essential to threatened and endangered species. For example, new trail development physically fragments habitats and the secondary effect of visitors along trail corridors can disrupt the natural movement of species across them. Even limited off-trail use by visitors can lead to the loss of habitat for small isolated populations of rare species. Yet, it is unlikely that any new developments would directly impact the habitats of threatened and endangered species, because none of the management zones have a tolerance for such impacts. In fact, alternative B calls for additional measures in a number of recreation areas to keep visitors on trails and away from sensitive habitats. However, there is still a potential for such effects. Under this alternative, the following listed species could potentially be subject to long-term negligible to minor adverse and local to regional impacts if new developments and uses are not carefully considered before implementation: Wehrle's salamander and the bog turtle.

**Sensory-based Disturbances.** Under alternative B, sensory-based disturbances to threatened and endangered species would be greatest in portions of the parkway that would offer expanded recreational opportunities in close proximity to their habitats. These areas would in turn attract greater numbers of visitors, resulting in heightened levels of noise and sight disturbance, which could cause species to avoid areas, especially during peak periods of visitor use. Under this alternative, the northern saw-whet owl could potentially be subject to long-term negligible to minor adverse local to regional impacts due to its location in areas that would be zoned recreation or visitor services.

**Poaching.** Under alternative B, the threat of poaching and its impacts on threatened and endangered species would continue, as described under the no-action alternative. This is due to the difficulty of curtailing this activity across the expanse of the parkway, regardless of which alternative is selected. In addition, certain management strategies proposed under this alternative can directly or indirectly affect poaching activity. For

example, applying the recreation zone across a large portion of the parkway could increase trail access to more remote areas, allowing poachers to more easily find and poach populations of rare species.

Conversely, increased trail use could also increase the chances of a visitor observing illegal activities and reporting them to parkway law enforcement staff. The recreation zone would also involve more proactive management and staff monitoring of the trail systems along the parkway. Also, under this alternative's more proactive, comprehensive approach to natural resource management, along with provisions under each management zone to protect rare species, poaching problems would likely be addressed more effectively.

Although poaching would continue to be a problem along the parkway, the actions of alternative B would help reduce the adverse impact of poaching in some ways. This alternative would also possibly compound it in other ways (e.g., increase in recreational access). Overall, alternative B would have a long-term minor beneficial local to regional effect on the species that are most vulnerable to poaching, which include: the bog turtle, Heller's blazing star, and the small whorled pogonia.

Overall, across the entire parkway, its segments, and recreation areas, alternative B would result in both adverse and beneficial effects on the federal and state listed threatened and endangered species of the parkway. The adverse impacts would be short- and long-term negligible to minor local to regional, primarily resulting from increased recreational use zones, habitat fragmentation and sensory disturbances from new trail development and use, and extended visitation seasons at some recreation areas. The beneficial impacts would be long-term minor to moderate and local to regional, primarily resulting from ecosystem-based management, expanded land protection strategies, regional land management partnerships (e.g., to address invasive plant control), new natural and special natural zoning, closed trails in sensitive areas, designated parking at recreation areas, increased NPS presence at some recreation areas during the extended visitation season, and improvements in enforcement of illegal activities such as poaching. For alternative B, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be *may affect / not likely to adversely affect*. The section 7 determinations for each individual federal listed threatened and endangered species are provided below in table 52.

**TABLE 52. POTENTIAL IMPACTS TO FEDERAL LISTED SPECIES OF THE BLUE RIDGE PARKWAY, ALTERNATIVE B**

Species	Federal Status	Endangered Species Act Determination
Virginia big-eared bat ( <i>Corynorhinus townsendii virginianus</i> )	Endangered	May affect / not likely to adversely affect
Carolina northern flying squirrel ( <i>Glaucomys sabrinus coloratus</i> )	Endangered	May affect / not likely to adversely affect
Gray bat ( <i>Myotis grisescens</i> )	Endangered	May affect / not likely to adversely affect
Indiana bat ( <i>Myotis sodalis</i> )	Endangered	May affect / not likely to adversely affect
Kirtland's warbler ( <i>Dendroica kirtlandii</i> )	Endangered	No effect
Bog turtle ( <i>Clemmys (=Glyptemys) muhlenbergii</i> )	Threatened*	May affect / not likely to adversely affect
Roanoke logperch ( <i>Percina rex</i> )	Endangered	No effect

Species	Federal Status	Endangered Species Act Determination
Mountain avens ( <i>Geum radiatum</i> )	Endangered	May affect / not likely to adversely affect
Swamp-pink ( <i>Helonias bullata</i> )	Threatened	No effect
Small whorled pogonia ( <i>Isotria medeoloides</i> )	Threatened	May affect / not likely to adversely affect
Heller's blazingstar ( <i>Liatris helleri</i> )	Threatened	May affect / not likely to adversely affect
Bog asphodel ( <i>Narthecium americanum</i> )	Candidate	No effect
Rock gnome lichen ( <i>Gymnoderma lineare</i> )	Endangered	May affect / not likely to adversely affect

\* Southern population of bog turtle (as found in park) is listed as Threatened due to similarity of appearance with northern population of the same species.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” section for alternative A would be the same under this alternative, resulting in regional long-term moderate adverse and beneficial effects to threatened and endangered species. Alternative B, when considered in combination with other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative’s contribution to these adverse cumulative effects would be small. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

**Conclusion.** Alternative B would have long-term minor to moderate beneficial local to regional impacts and short- and long-term negligible to minor local to regional adverse impacts on federal and state listed threatened and endangered species. Impacts of this alternative, combined with the impacts of other past, present, and reasonably

foreseeable future actions, would result in long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative’s contribution to these adverse cumulative effects would be small. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

For alternative B, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be *may affect / not likely to adversely affect*.

**Alternative C**

**Parkway-wide.** Under alternative C, there would be many of the same benefits to federal and state listed threatened and endangered species as described under alternative B (i.e., added protection from parkway-wide management strategies). Also, as with alternative B, the parkway would undertake a more regional approach to protecting threatened and endangered species by



expanding partnerships with private landowners, agencies, and other organizations. This would benefit listed species by mounting recovery efforts for populations that extend beyond the boundary of the parkway or become isolated by habitat fragmentation from surrounding developments.

Certain benefits to threatened and endangered species under current management would also continue under alternative C. For instance, all state-designated natural heritage areas, globally ranked natural communities, and other ecologically sensitive areas that support special status species within the parkway would continue to be protected to the fullest extent. To further emphasize the protection of habitats that support threatened and endangered species, the special natural resource zone would be applied to 10,074 acres (12.3%) of parkway lands under this alternative. An example of proactive management that would occur within this zone is the new vista management strategy designed to improve habitat for the Carolina northern flying squirrel. This new approach was recently initiated under the no-action alternative (NPS 2008a), and it would be carried forward under alternative C, resulting in continued beneficial impacts on flying squirrels.

Under alternative C, 24,584 acres (29.9%) of the parkway would be zoned natural, which emphasizes greater protection of natural resources, including threatened and endangered species, than many of the other zones—except for the special natural resources zone, which is equal between the two action alternatives. The amount of parkway land zoned natural under alternative C is notably larger when compared to the 19,491 acres (23.7%) of this zone under alternative B. With less emphasis on providing recreational opportunities for visitors and a lower tolerance for resource impacts, the natural zone would focus on managing for a more pristine environment across a greater portion of the parkway.

As a result of this alternative's more regional management approach, expanded land protection strategy, and management zones that emphasize desired natural resource conditions, there would be long-term moderate beneficial regional effects to threatened and endangered species.

Adverse impacts on threatened and endangered species would also occur under this alternative. These impacts are assessed based on the following four categories: habitat alteration, habitat loss and fragmentation, sensory-based disturbances, and poaching. Please refer to these subheadings under alternative A for definitions of these impact categories.

**Habitat Alteration.** Under alternative C, a variety of developments would be enhanced within the parkway's visitor services zone to provide modern-day amenities, such as comfort stations with hot showers, RV sites with water and electrical hookups, larger tent sites to better accommodate family sized tents, and wider turning radii along campground roads to improve RV access. To accomplish this, portions of some recreation developments would be upgraded or redesigned, resulting in local habitat alterations. However, because the majority of these developments are already highly modified environments that do not support threatened and endangered species, these changes would not directly affect these species. Even so, some indirect short-term minor adverse local to regional impacts may occur to the following species that inhabit areas adjacent to these recreation developments due to their close proximity: Carolina northern flying squirrel, Heller's blazing star, and northern saw-whet owl.

Conversely, under alternative C, the adverse effects of habitat alteration on threatened and endangered species could be diminished by a more proactive strategy to controlling invasive species. By reducing competition between invasive and rare species, long-term minor to moderate beneficial local to regional impacts would result. Also, as under the no-action alternative, alternative B would include the

vista management strategy that incorporates habitat mitigation measures to protect Carolina northern flying squirrel habitat.

**Habitat Loss and Fragmentation.** Under alternative C, it is unlikely that any upgrades or redesigns to existing developments would result in the direct loss or fragmentation of habitats for threatened and endangered species because the majority of these developments are already highly modified environments that do not support these species. However, there is still a potential for such effects. Under this alternative, the following listed species could potentially receive long-term minor adverse local to regional impacts if changes to developments are not carefully considered before implementation: Carolina northern flying squirrel, Heller's blazing star, and northern saw-whet owl.

**Sensory-based Disturbances.** Under alternative C, sensory-based disturbances to threatened and endangered species would be greatest in portions of the parkway that would offer expanded recreational opportunities in close proximity to their habitats. These areas would in turn attract greater numbers of visitors, resulting in heightened levels of noise and sight disturbance, which could cause species to avoid areas, especially during peak periods of visitor use. Under this alternative, the following listed species could potentially receive long-term negligible to minor adverse local to regional impacts due to their locations in areas that would be zoned recreation or visitor services: northern saw-whet owl.

**Poaching.** Under alternative C, poaching would continue to cause adverse impacts on threatened and endangered species, as described under the no-action alternative. This is due to the difficulty of curtailing this activity across the expanse of the parkway, regardless of which alternative is selected. However, certain management strategies proposed under each alternative can directly or indirectly affect poaching activity. For example, applying the natural zone across a large portion of the parkway would help maintain the inaccessibility of some areas,

preventing poachers from easily collecting populations of rare species. Furthermore, given this alternative's more proactive, comprehensive approach to natural resource management, along with provisions under each management zone to protect rare species, poaching problems would likely be addressed more effectively. Thus, although poaching would continue to be a problem along the parkway, the actions of alternative C would help reduce the adverse impact of poaching. As a result, alternative C would have a long-term minor to moderate beneficial regional effect on the species that are most vulnerable to poaching, which include: the bog turtle, Heller's blazing star, and small whorled pogonia.

Overall, across the entire parkway, its segments, and recreation areas, alternative C would result in both adverse and beneficial effects on the federal and state listed threatened and endangered species of the parkway. The adverse impacts would be short- and long-term, negligible to minor, local to regional, primarily resulting from habitat fragmentation and sensory disturbances from new trail/facility development and use (including substantial campground upgrades), and extended visitation seasons at some recreation areas. The beneficial impacts would be long-term, minor to moderate, local to regional, primarily resulting from ecosystem-based management, a relatively large area zoned as natural or special natural zones, expanded land protection strategies, regional land management partnerships (e.g., to address invasive plant control), closed trails in sensitive areas, increased NPS presence at some recreation areas during the extended visitation season, and improvements in enforcement of illegal activities such as poaching. For alternative C, the overall determination of effect on federal threatened and endangered species protected under section 7 of the Endangered Species Act would be *may affect / not likely to adversely affect*. The section 7 determinations for each individual federal listed threatened and endangered species are provided below in table 53.

**TABLE 53. POTENTIAL IMPACTS TO FEDERAL LISTED SPECIES OF THE BLUE RIDGE PARKWAY, ALTERNATIVE C**

Species	Federal Status	Endangered Species Act Determination
Virginia big-eared bat ( <i>Corynorhinus townsendii virginianus</i> )	Endangered	May affect / not likely to adversely affect
Carolina northern flying squirrel ( <i>Glaucomys sabrinus coloratus</i> )	Endangered	May affect / not likely to adversely affect
Gray bat ( <i>Myotis grisescens</i> )	Endangered	May affect / not likely to adversely affect
Indiana bat ( <i>Myotis sodalis</i> )	Endangered	May affect / not likely to adversely affect
Kirtland's warbler ( <i>Dendroica kirtlandii</i> )	Endangered	No effect
Bog turtle ( <i>Clemmys (=Glyptemys) muhlenbergii</i> )	Threatened*	May affect / not likely to adversely affect
Roanoke logperch ( <i>Percina rex</i> )	Endangered	No effect
Mountain avens ( <i>Geum radiatum</i> )	Endangered	No effect
Swamp-pink ( <i>Helonias bullata</i> )	Threatened	No effect
Small whorled pogonia ( <i>Isotria medeoloides</i> )	Threatened	May affect / not likely to adversely affect
Heller's blazingstar ( <i>Liatris helleri</i> )	Threatened	May affect / not likely to adversely affect
Bog asphodel ( <i>Narthecium americanum</i> )	Candidate	No effect
Rock gnome lichen ( <i>Gymnoderma lineare</i> )	Endangered	No effect

\* Southern population of bog turtle (as found in park) is listed as Threatened due to similarity of appearance with northern population of the same species.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions under this alternative would be the same as those described under the “Cumulative Effects” discussion for alternative A, resulting in regional, long-term moderate adverse and beneficial impacts on threatened and endangered species. Alternative C, when considered in combination with these other actions, would result in long-term minor to moderate adverse local and regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative’s contribution to these adverse cumulative effects would be slight. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

**Conclusion.** Alternative C would have long-term minor to moderate local to regional beneficial impacts, and short- and long-term negligible to minor local to regional adverse impacts on federal and state listed threatened and endangered species. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in long-term minor to moderate adverse local and regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts on threatened and endangered species of the parkway. This alternative’s contribution to these adverse cumulative effects would be slight. However, due to the parkway’s importance in providing regional connectivity to other public and private lands that protect these resources and the focus on a regionwide ecosystem management approach, this alternative would contribute a considerable amount to the beneficial cumulative effects.

For alternative C, the overall determination of effect on federal threatened and endangered

species protected under section 7 of the Endangered Species Act would be *may affect / not likely to adversely affect*.

## GEOLOGIC RESOURCES AND SOILS

### Methods and Assumptions for Analyzing Impacts

The effects of the management alternatives on geologic resources and soils of the parkway are analyzed based on impacts resulting from visitor use patterns and levels of development associated with each alternative. The thresholds to determine the intensity of impacts are defined as follows.

**Negligible:** The impact is barely detectable and/or would result in no measurable or perceptible changes to geologic resources or soils.

**Minor:** The impact is slight but detectable, and/or would result in small but measurable changes to geologic resources or soils.

**Moderate:** The impact is readily apparent and/or would result in easily detectable changes to geologic resources or soils.

**Major:** The impact is severely adverse or exceptionally beneficial and/or would result in appreciable changes to geologic resources or soils.

### Alternative A—No-action

**Parkway-wide.** Visitor activities that would continue to impact soils of the parkway include hiking, horseback riding, backcountry camping, recreating along the banks of rivers and lakes, and parking in undesignated areas. Ongoing impacts from existing developments along the parkway, such as trails, can also occur if they are improperly designed or unmaintained. The lack of adequate developments to support varying types and levels of visitation can also lead to soil-related impacts, such as the lack of directional fencing to prevent off-trail use. Under the no-action

alternative, these activities and developments would continue to cause short- and long-term minor adverse local to regional impacts on soils, primarily as a result of routine visitation to designated areas of the parkway. More specific impacts on geologic resources and soils are described below.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segments 1 and 6: Ridge and Asheville—** Under the no-action alternative, vehicles parking in undesignated areas along the Ridge and Asheville segments of the parkway would continue to cause local soil compaction and erosion. This is particularly evident at sites that access trail systems where designated parking is not provided. The high frequency of vehicles that park off the roadway in these areas would continue to result in long-term minor adverse local impacts on soils.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

**Humpback Rocks and Linville Falls—** Under the current management approach, the trail systems at Humpback Rocks and Linville Falls would continue to cause soil erosion and compaction, resulting in long-term moderate adverse local impacts. This is due to a combination of poorly designed and inadequately maintained trails that cannot sustain current levels of visitor use, which has led to trail widening, social trails, and off-trail use.

**Julian Price Park—** Unauthorized backcountry camping would continue at Hebron Falls, causing local soil compaction and increased soil erosion as vegetation is disturbed. This would continue to result in long-term minor adverse local impacts. The designated picnic area and adjacent trail at Julian Price Park is also causing extensive soil compaction and bank erosion near the stream,

resulting in long-term moderate adverse local impacts. This is due to the close proximity of the picnic area and trail to Boone Fork, which frequently floods, combined with the high concentration of visitors who frequent this popular recreation site.

Overall, across the entire parkway, its segments, and recreation areas, alternative A would continue to result in a short- and long-term minor to moderate adverse local to regional impact on the geologic resources and soils of the parkway. The adverse impacts would primarily result from continued soil compaction and erosion from off-trail use, undesignated parking, trail widening, and unauthorized backcountry camping.

**Cumulative Effects.** Other past, present, and reasonably foreseeable future actions that would contribute to impacts on geologic resources and soils include developments on adjacent private lands, such as residential homes, subdivisions, and commercial industries. These developments primarily cause short-term moderate adverse local to regional impacts during the initial construction phase, as a result of soil compaction, erosion, and removal. Developments would also continue to impact geologic features of the landscape, such as cut slopes from excavation. In many cases, these developments are occurring directly adjacent to the parkway boundary, some of which are highly visible from the parkway. It is likely that these private developments would continue at their current pace, resulting in long-term moderate adverse local to regional cumulative impacts on geologic resources and soils.

Similar impacts on geologic resources and soils occurred during the initial construction of the parkway. Although special attention was given to preserve the natural geologic features of the park, construction-related disturbances resulted in long-term moderate adverse regional impacts during this early development phase. The impacts of these actions, in combination with those described for the no-action alternative, would result in short- and long-term minor to moderate adverse local to regional impacts. The

parkway's current management approach is expected to contribute a small amount to these cumulative effects, because no substantial developments are planned beyond routine maintenance of the parkway's existing infrastructure.

**Conclusion.** The no-action alternative would have a short- and long-term minor to moderate adverse local to regional impact on geologic resources and soils. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts. This alternative's contribution to these effects would be small.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** Under alternative B, geologic resources and soils of the parkway would receive added management attention through this alternative's more ecosystem-based approach. This would result not only from parkway-wide management strategies, but from the application of management zones, which establish desired natural resource conditions and include management prescriptions to more proactively address potential impacts, including those to geologic resources and soils. For example, this alternative would zone 10,139 acres (12.3%) of parkway lands as recreation in order to enhance visitor opportunities. As a result, management strategies could include such actions as the realignment of erosion-prone trails to improve visitor experiences. These types of new management approaches would result in long-term minor beneficial regional effects to geologic resources and soils of the parkway.

On the other hand, expanding or improving amenities and services within the recreation zone would attract more visitors to more remote areas of the parkway, increasing the likelihood of adverse impacts on soils. For example, mountain bikers and horseback riders who might venture off designated trails

could compact soils or trample vegetation, leading to increased erosion in previously inaccessible areas. These impacts, as well as the new trails, campsites, or other infrastructure, could lead to local soil disturbances, resulting in long-term minor to moderate adverse local impacts. However, management prescriptions under the recreation zone state that any additional developments would be adapted as needed to minimize impacts on natural resources, including soils and other geologic resources.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 1: Ridge*—Under alternative B, visitors would continue to park their vehicles in an unpaved area along the parkway to access trails on adjacent U.S. Forest Service land, resulting in local soil compaction and erosion. The regular occurrence of vehicles parking in this undesignated area would continue to result in long-term minor adverse local impacts on soils.

*Segment 6: Asheville*—Under alternative B, the parkway would provide designated parking spaces for visitors accessing trail systems along the Asheville segment of the parkway. This would reduce the effects of soil compaction and erosion caused by the high frequency of vehicles currently parking in unpaved areas. As a result, there would be long-term minor beneficial local impacts on soils.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

*Humpback Rocks and Linville Falls*—Under alternative B, the area surrounding the trail systems at Humpback Rocks and Linville Falls would be zoned recreation. This zone would emphasize the need to address soil compaction and erosion problems associated with these trails, which were not designed to

support current levels of visitor use. This has led to trail widening, social trails, and off-trail use. As a result of improving or realigning trails to better accommodate current and future levels of visitors, soils would receive long-term minor beneficial local effects in these areas.

*Julian Price Park*—Under alternative B, the majority of Julian Price Park would be zoned natural. Within this zone, visitor use would be managed at low levels, allowing for only low-impact recreational activities, to avoid resource degradation. In addition, degraded sites would be restored in order to reestablish natural systems and processes. These management prescriptions would help to address soil compaction and erosion associated with unregulated tent camping at Hebron Falls, either by designating a backcountry campsite or by closing and rehabilitating the impacted area. Either of these actions would result in long-term minor beneficial local impacts on soils in this immediate area.

Under alternative B, the picnic area near Boone Fork would be relocated out of the floodplain to higher ground near Old John's River Road. This would allow for rehabilitation of the existing picnic area, where concentrated visitor use has caused extensive soil compaction and erosion near the stream. As a result, there would be long-term moderate beneficial local impacts on soils in this area. However, some adverse impacts on soils would be transferred to the site of the new picnic area. Construction of a new picnic area of comparable size and with similar amenities (e.g., comfort stations, parking areas, drinking water, and septic system) to the existing one along Boone Fork would cause short-term moderate adverse local impacts on soils. Long-term minor adverse local impacts on soils would also result from visitor use of the new picnic area. However, the location of the new picnic area would have fewer overall adverse impacts on soils than the existing location as a result of being away from the compounded effects of flooding and natural stream channel dynamics.

Overall, across the entire parkway, its segments, and recreation areas, alternative B would result in both adverse and beneficial effects on the geologic resources and soils of the parkway. The adverse impacts would be short- and long-term minor to moderate local to regional, primarily resulting from soil disturbances from new visitor amenities and services in recreation zones, trail development, and other infrastructure/facility development. The beneficial impacts would be long-term, minor to moderate, beneficial, local to regional, primarily resulting from an ecosystem-based management approach, new natural management zones, removal of existing visitor facilities out of eroding areas, and designated parking in some areas.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” discussion for alternative A would be the same under alternative B, resulting in long-term minor to moderate adverse local to regional impacts on geologic resources and soils. The cumulative effects of these actions, in combination with those described for alternative B, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local cumulative impacts. However, this alternative’s contribution to these cumulative effects is expected to be relatively small.

**Conclusion.** Alternative B would have long-term minor to moderate beneficial local to regional impacts and short- and long-term minor to moderate adverse local to regional impacts. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local cumulative impacts. However, this alternative’s contribution to these cumulative effects is expected to be relatively small.

## Alternative C

**Parkway-wide.** Under alternative C, geologic resources and soils would receive many of the same management considerations described under alternative B (i.e., added protection due to parkway-wide management strategies). In addition, under this alternative, 24,584 acres (29.9%) of the parkway would be zoned natural, which emphasizes greater protection of geologic resources and soils. With less emphasis on providing recreational opportunities for visitors and a lower tolerance for resource impacts, the natural zone designation would bring focus to managing for a more pristine environment across a greater portion of the parkway. These desired resource conditions along with a broader ecosystem-based approach would result in long-term minor beneficial regional effects to geologic resources and soils of the parkway.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segment 1: Ridge**—Under alternative C, the parkway would provide paved parking spaces for visitors accessing trails on adjacent U.S. Forest Service land. This would reduce the effects of soil compaction and erosion caused by the regular occurrence of vehicles that park in this undesignated area. As a result, there would be long-term minor beneficial local impacts on soils.

**Segments 1 and 2: Ridge and Roanoke**—Under alternative C, the redesign of certain overlook pullouts to enhance the visibility of parking areas along these segments of the parkway would further alter these highly modified environments. To achieve this, construction could require the use of large earth-moving equipment to recontour landforms that screen these areas from the parkway, resulting in long-term moderate adverse local impacts on geologic resources and soils.

**Segment 6: Asheville**—Under alternative C, the parkway would provide designated parking spaces for visitors accessing trail systems along the Asheville segment of the parkway. This would reduce the effects of soil compaction and erosion caused by the high frequency of vehicles currently parking in unpaved areas. As a result, there would be long-term minor beneficial local impacts on soils. Additionally, this alternative allows for the development of new staging areas for a shuttle system with the city of Asheville. As a result, the size of paved parking and staging areas would be larger compared to the other alternatives, resulting in the permanent loss of soils. These local impacts would have a long-term moderate adverse local effect on soils.

**Segments 1, 2, 4, and 6: Ridge, Roanoke, Highlands, and Asheville**—Under alternative C, a paved multiuse trail would be developed parallel to the parkway along portions of the Ridge, Roanoke, Highlands, and Asheville segments. This path would be separate from the parkway road to minimize interaction between bicyclists and automobiles and to maintain the historic integrity of the parkway's designed landscapes. Along each of these segments, the trail would extend 11 to 16 miles for a total distance of 53 miles. Because the exact location of the trail has not been identified along any of these segments, it is difficult to determine the type and intensity of impacts on geologic resources and soils. If any portion of the trail is proposed for implementation, then additional appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act.

The National Park Service completed a feasibility study (February 2005) to determine the most appropriate segments of the parkway on which to construct a multiuse trail. The study found that the proposed trail sections under this alternative would be in areas where generally only minor impacts would be necessary to overcome physical constraints (e.g., steep ridge slopes, unreasonable profile grades). However, more substantial impacts would be necessary along very short distances to overcome large obstacles. In these cases,

additional tunnels and bridges may be required, which could substantially alter certain geologic features. As a result, the multiuse trail segments proposed under this alternative could cause long-term moderate adverse local to regional impacts on rock outcroppings, mountain slopes, soils, and other geologic features along the parkway.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

**Humpback Rocks and Linville Falls**—Under alternative C, soils in the Humpback Rocks and Linville Falls recreation areas would receive long-term, minor beneficial local effects by reducing trail-related impacts. By zoning the majority of Humpback Rocks and Linville Falls as natural, visitor use would be managed at low levels to avoid further degradation of these soils. Any sites that have been impacted by trail widening, social trails, and off-trail use would be restored in order to reestablish the ecological integrity of these areas. As a result, soils would receive long-term, minor beneficial local effects. However, the development of a paved, multiuse trail parallel to the parkway, and the addition of the recreation zone to accommodate this trail, would introduce long-term moderate adverse local effects to geologic resources and soils in this recreation area.

**Roanoke Mountain**—Under alternative C, some long-term moderate adverse local effects on geologic resources and soils would result from the development of a paved, multiuse trail parallel to the parkway. These paths would be separate from the roadways to minimize interaction between bicyclists and automobiles and to maintain the historic integrity of the parkway's designed landscapes. Because the exact location of the trail has not been identified along this segment of the parkway and in this park, it is difficult to determine the intensity of impacts on geologic resources and soils. If any portion of the trail is proposed for implementation, then additional appropriate environmental



compliance documentation would be prepared in accordance with the National Environmental Policy Act.

**Julian Price Park**—Under alternative C, the areas surrounding the Boone Fork Trail system at Julian Price Park would be zoned recreation. This zone would allow for the establishment of a designated backcountry camping area at Hebron Falls, which would address soil compaction associated with unregulated tent camping at this site. If established, the new campsites would result in long-term minor beneficial local impacts on soils by containing overnight use to a specific location, rather than having it spread throughout the area.

Although some enhancements to the designated picnic area would result from upgraded comfort stations and other historic parkway zone actions under this alternative, the picnic area would remain in its existing location. Thus, it would continue to cause extensive soil compaction and bank erosion near the stream as described under the no-action alternative (due to the close proximity of the picnic area to Boone Fork combined with the high concentration of picnic area users).

Also, under alternative C, some long-term moderate adverse local effects on geologic resources and soils would result from the development of a paved, multiuse trail parallel to the parkway from the parkway's eastern boundary to the Price Lake area. This path would be separate from the parkway road to minimize interaction between bicyclists and automobiles and to maintain the historic integrity of the parkway's designed landscapes. Because the exact location of the trail has not been identified along this segment, it is difficult to determine the intensity of impacts on geologic resources and soils. If any portion of the trail is proposed for implementation, then additional appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act.

Overall, across the entire parkway, its segments, and recreation areas, alternative C would result in both adverse and beneficial effects on the geologic resources and soils of the parkway. The adverse impacts would be long-term, moderate, adverse, local to regional, primarily resulting from soil disturbances from new visitor amenities and services in recreation zones, new trail development, and other infrastructure/facility development. The beneficial impacts would be long-term, minor, and local to regional, primarily resulting from an ecosystem-based management approach, large areas of new natural management zones, new designated camping areas, and designated parking in some areas.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” discussion for alternative A would be the same under this alternative, resulting in short- and long-term minor to moderate adverse local to regional impacts on geologic resources and soils. The cumulative effects of these actions, in combination with those described for alternative C, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor beneficial local to regional cumulative impacts. However, this alternative's contribution to these cumulative effects is expected to be relatively small.

**Conclusion.** Alternative C would have long-term minor beneficial local to regional impacts and long-term moderate adverse local to regional impacts on soils. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse, local to regional cumulative impacts and long-term minor beneficial local to regional cumulative impacts. However, this alternative's contribution to these cumulative effects is expected to be relatively small.

## WATER-RELATED RESOURCES

This impact topic includes wetlands, riparian areas, floodplains, streams, and water quality.

### Methods and Assumptions for Analyzing Impacts

Wetlands, riparian areas, floodplains, streams, and water quality are analyzed together in this section because of the similarities of these resources, their interrelationship to each other, and their collective effect on the overall hydrologic systems of the parkway. For example, the health of a riparian area not only influences the ability of a floodplain to store and release water, but also affects bank stability, which contributes to the natural sinuosity of a stream. Healthy riparian vegetation can also filter pollutants before they reach a stream, which in turn affects water quality. Also, many riparian areas are often referred to as wetlands, depending in part on how long their soils remain saturated each year. Because these water-related resources are so entwined, the following impact thresholds have been developed for analyzing all of them.

**Negligible:** Wetlands, riparian areas, floodplains, streams, or water quality would not be impacted, or the impacts would be either undetectable or if detected, the effects would be considered slight. Any measureable changes would be within the natural range of variability.

**Minor:** Impacts on wetlands, riparian areas, floodplains, streams, or water quality would be limited to isolated areas. Natural processes, functions, and integrity would be temporarily affected, but would be within the natural range of variability. The impacts would only affect a few individuals of plant or wildlife species dependent on one or more of these water-related resources. Any changes would require considerable scientific effort to measure and have barely perceptible consequences.

**Moderate:** Impacts on wetlands, riparian areas, floodplains, streams, or water quality would be readily apparent. Natural processes, functions, and integrity would be affected, but would be only temporarily outside the natural range of variability. The impacts would have a measurable effect on plant or wildlife species dependent on one or more of these water-related resources, but all species would remain indefinitely viable within the park.

**Major:** Impacts would have drastic and permanent consequences for wetlands, riparian areas, floodplains, streams, or water quality, which could not be mitigated. Species dependent on one or more of these water-related resources would be at risk of extirpation from the park. Changes would be readily measurable, outside the natural range of variability, and would have substantial consequences.

### Alternative A—No-action

**Parkway-wide.** Under the no-action alternative, the lack of a comprehensive, science-based approach would continue to deemphasize active management of the parkway's broader natural resource conditions, including wetlands, riparian areas, floodplains, streams, and water quality. Management would continue to focus on site-specific issues, rather than a more proactive, ecosystem-based strategy that considers the long-term health of these water-related resources. This is evident in one of the parkway's primary objectives, which is to maintain the designed landscapes of the parkway, rather than emphasize the protection and restoration of its natural resources. For example, a number of historic wetlands along the parkway were converted into human-made lakes (e.g., Abbott Lake, Otter Lake), which today serve as major attractions for visitors. As a result, these areas would continue to be impacted by high concentrations of use (e.g., vegetation trampling, soil compaction, erosion, and the introduction of pollutants into these waterways). In addition, these impoundments increase water temperatures, change the

composition of aquatic invertebrate and fish communities, and alter nutrient levels downstream from the dams. Also, when beavers occupy water bodies in close proximity to developed areas of the parkway, their constructed dams would continue to be removed in most cases, resulting in adverse effects on beaver habitat. Consequently, under this alternative, there would continue to be long-term minor to moderate adverse local to regional impacts on water-related resources when considering the parkway's overall approach to natural resource management.

In contrast, the parkway would continue to be committed to protecting water-related resources as required by federal law and NPS policy. For the most part, these resources (e.g., sensitive wetlands) occur away from existing visitor use areas, and therefore, would not be directly impacted under current management. This alternative would protect all state-designated natural heritage areas and globally ranked natural communities, a number of which are rare bogs, seeps, and other wetland plant communities.

Furthermore, no new developments outside of existing developed areas would occur under this alternative. The ongoing acquisition of adjacent private lands for scenery conservation may also indirectly help to protect adjoining wetlands and other water-related resources. The parkway has not actively managed wetlands and it is widely believed that many are drying out due to encroachment by woody plants such as the nonnative multiflora rose. A project was recently funded that would allow the parkway to gather information about the size, condition, and natural resources that are found in wetlands. Once the full range of conditions and risks are known, a management plan can be developed that would direct future management actions. Due to this funding, the parkway will begin active management of wetlands. Because of these aspects of the current management approach, the majority of water-related resources throughout the parkway would continue to be

protected, resulting in long-term minor beneficial regional effects.

**Parkway Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

*James River/Otter Creek*—As mentioned previously, a historic wetland along Otter Creek was dammed to create Otter Lake. Under the no-action alternative, it would continue to be dredged periodically to remove silt in order to maintain lake qualities for visitors. In addition to the wetland habitat originally lost and the ongoing visitor-related impacts described previously, routine dredging would result in short-term moderate adverse local impacts due to temporary degradation of water quality and disruption of fish and wildlife.

*Peaks of Otter*—Under the no-action alternative, existing developments at Peaks of Otter would continue to have an adverse effect on natural floodplain dynamics, riparian areas, a historic wetland, and water quality. A majority of these impacts occurred during construction of the area's designed landscape, including the flooding of a large wetland to create Abbott Lake near the lodge. In addition to the displacement of wetlands, the relatively warm water exiting Abbott Lake into Stony Creek was likely the main cause for the loss of trout in the stream due to the increase in water temperature. And, the construction of a picnic area within the Stony Creek riparian corridor downstream from the lake has diminished the ecological integrity of this area.

Although the initial impacts of these developments have already occurred, ongoing visitor-related impacts within these areas would continue. For instance, petroleum-based runoff from parking lots and roads has the potential to drain pollutants into the Abbott Lake watershed, affecting water quality. Salting roads and walkways in the winter time also contributes to this impact. This is exacerbated by lack of adequate riparian vegetation along the lake and stream

to filter these chemicals. This is due in part to the large number of visitors attracted to these areas, resulting in riparian vegetation trampling and soil compaction. Additionally, the lawns surrounding the lake are routinely mowed to the water's edge, leaving no vegetative buffer. These impacts adversely affect water quality and vegetation and disturb native wildlife dependent on these areas for their habitat. Collectively, these activities would continue to result in long-term moderate adverse local impacts on the floodplain, riparian areas, wetlands, and water quality in the Abbott Lake watershed.

**Rocky Knob**—Under current management, long-term moderate adverse local impacts on wetlands would continue. This is due in part to a lack of active vegetation management to prevent the succession of these rare habitats. With the absence of natural fires and native herbivores to inhibit the spread of encroaching woody plants, many wetlands scattered throughout this recreation area would gradually disappear. There are adverse impacts on Rock Castle Creek at the bottom of the gorge, possibly the result of a leaky septic system at the Rocky Knob cabins and the latrine at the backcountry campsite further downstream. Under this alternative, long-term moderate adverse local impacts on water quality would continue.

**Blue Ridge Music Center**—The Blue Ridge Music Center is one of the newest additions to the parkway. Historically the area was used for livestock grazing, which resulted in some bank erosion and vegetation trampling along Chestnut Creek. Since then, much of the riparian vegetation has recovered and the stream banks have stabilized. Under the no-action alternative, these long-term minor beneficial local effects would continue as a result of limiting use within this riparian area.

Due to the close proximity of the music center to Chestnut Creek, some local impacts on the riparian area would continue from routine maintenance of the area (e.g., cutting of streamside vegetation behind the visitor center). The potential for visitor-related impacts would also continue, because visitors

can easily hike down and wander along the stream, increasing the likelihood of trampling vegetation and creating social trails over time. Overflow parking in the meadow during large events would continue to compact soils, increasing the risk of erosion and surface runoff. Due to these local impacts on riparian vegetation and the slight potential for degrading water quality, some long-term minor adverse local impacts would continue under alternative A.

**Doughton Park**—Under alternative A, agricultural leases at Doughton Park would continue to result in long-term moderate adverse local impacts on wetlands, streams, and water quality. This is primarily due to livestock trampling within these sensitive areas. Sanitation problems associated with the backcountry campsite would also continue to cause long-term moderate adverse local impacts on water quality of the adjacent creek, especially during the peak season when the campsite can receive over 40 overnight backpackers. Horseback riding on Grassy Gap Fire Road also contributes to these water quality impacts when runoff washes manure into the creek.

**Julian Price Park**—Under the no-action alternative, existing developments, visitor use, and agricultural leases at Julian Price Park would continue to impact wetlands, riparian areas, the floodplain, and water quality. As discussed earlier under the “Geologic Resources and Soils” section, the designated picnic area in the floodplain and riparian area of Boone Fork is causing long-term moderate adverse local impacts on these water-related resources. The picnic area's septic system, drain field, restrooms, and parking lot are frequently flooded, which washes contaminants into the stream and adjacent wetland, periodically degrading water quality.

Unauthorized backcountry camping downstream at Hebron Falls would also continue under this alternative, resulting in the trampling of riparian vegetation and sanitation problems that further degrade water quality. This would continue to result in long-term minor adverse local impacts.

Livestock foraging in unfenced areas of the agricultural leased areas within Julian Price Park would also continue to cause long-term moderate adverse local impacts on riparian areas and wetlands.

*Linville Falls*—Under this alternative, the location of existing developments (including a campground, picnic area, and visitor center) within the Linville River floodplain would continue to affect this high-gradient mountain stream. For example, a dike was recently constructed along the Linville River to divert floodwater away from the picnic area. This type of stream channel modification can alter stream bottom composition, sediment transportation, and inhibit natural stream channel dynamics. Recreational activities that occur within these developed areas would also continue to impact water-related resources. For instance, riparian vegetation trampling is common along the river due to the high volume of visitors. Under alternative A, existing developments and recreation activities would continue to result in long-term minor to moderate adverse local impacts on the floodplain, riparian area, and stream.

*Mt. Pisgah*—Under the no-action alternative, the location of the Mt. Pisgah campground would continue to affect a rare high-elevation bog. This unique wetland is surrounded on three sides by the campground, increasing the potential for contamination from surface runoff, faulty restrooms, and other point and nonpoint sources. The campground also isolates the bog from the surrounding spruce/fir forest, which fragments habitat and hinders wildlife movement. Recreational activity would also continue to cause vegetation trampling and disturb wildlife, including rare amphibian species. Combined, these actions would continue to result in long-term moderate adverse local impacts on the wetland and its water quality.

Overall, across the entire parkway, its segments, and recreation areas, alternative A would continue to result in both adverse and beneficial effects on the water-related resources of the parkway. The adverse impacts would be short- and long-term minor

to moderate and local to regional, primarily resulting from continued wetland and riparian degradation from visitor use, lake dredging, the lack of active vegetation management in wetlands and riparian areas, grazing and livestock impacts, and unauthorized camping. The beneficial impacts would be long-term minor and local to regional, primarily resulting from the development of a wetland management plan and the riparian protection efforts in some previously disturbed areas.

**Cumulative Effects.** Past, present, and reasonably foreseeable future actions that impact wetlands, riparian areas, floodplains, streams, and water quality include the original development of the parkway (and its designed landscapes) and ongoing development of adjacent private lands. During the construction phase of the parkway, less was known about the importance and sensitivity of these water-related resources. As a result, some wetlands, riparian areas, floodplains, and streams have been highly modified or continue to be impacted by adjacent developments and recreational activities.

The creation of human-made lakes, stream channel diversions, floodplain developments, conversion of natural sheetflow to channelized flow, and livestock grazing all contributed to the initial degradation of water-related resources within the parkway. These types of impacts are also common on private lands adjacent to the parkway, resulting in short- and long-term moderate adverse local to regional cumulative effects. The parkway's current management approach contributes a small amount to these cumulative effects, because no substantial developments are planned beyond routine maintenance of the parkway's existing infrastructure.

In contrast, the parkway protects a 469-mile contiguous stretch of the Blue Ridge Mountains. Most of the parkway remains undisturbed, ensuring the long-term viability of numerous rare high-elevation wetlands and several hundred headwater streams. When combined with Shenandoah and Great Smoky Mountains national parks, several adjacent

national forests, state parks, and numerous natural heritage areas, the parkway provides connectivity vital for this regional network of conservation areas. Collectively, these areas provide long-term moderate beneficial regional effects on the region's water resources.

Overall, the impacts of these past, present, and reasonably foreseeable future actions, in combination with those described for the no-action alternative, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor beneficial local to regional cumulative impacts. Continuation of current management under alternative A would contribute a considerable amount to the beneficial cumulative effects, but only a small amount to the adverse cumulative effects.

**Conclusion.** The no-action alternative would have short- and long-term minor to moderate adverse local to regional impacts and long-term minor beneficial local to regional impacts on wetlands, riparian areas, floodplains, streams, and water quality. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor beneficial local to regional cumulative impacts. Alternative A would contribute a considerable amount to the beneficial cumulative effects but only a small amount to the adverse cumulative effects.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** As under alternative C, alternative B would provide a more ecosystem-based approach and a collaborative partnership approach to managing the parkway's natural resources, including wetlands, riparian areas, floodplains, streams, and water quality, than would the no-action alternative. This would include parkway-wide strategies that

emphasize multiyear projects to protect, restore, and enhance water-related resources. This long-term comprehensive approach would be more proactive in nature, rather than one that reacts to site-specific impacts as they occur. As a result, some areas of the parkway would be managed differently to address natural resource concerns. For example, certain areas traditionally managed for visitor use could be modified to better protect water resources. Mowing regimes and visitor use patterns near human-made lakes could be adjusted to allow for the establishment of native vegetation along the lakeshores.

Also, under this alternative, the special natural resource zone would be applied to 10,068 acres (12.2%) of parkway lands to emphasize the protection of its unique natural resources, including rare wetlands, bogs, and seeps. This alternative would also look beyond the boundaries of the parkway to develop a more regional approach to natural resource management. By expanding partnerships with private landowners, nonprofit organizations, local governments, and state and federal agencies, the parkway would have greater opportunities to protect streams, wetlands, and other habitats that cross ownership boundaries.

These types of alternative management approaches would help to improve the overall integrity of water-related resources along the parkway (e.g., filter pollutants and enhance habitat quality for fish and wildlife) resulting in long-term minor to moderate beneficial local to regional effects, depending on the scale and effectiveness of projects and programs implemented under this alternative.

In contrast, some adverse impacts on water-related resources could also result from this alternative's management zoning approach. As described for the other natural resource topics, alternative B would zone 7,751 acres (9.4%) of parkway lands as recreation in order to enhance visitor opportunities. Within this zone, management strategies could include expanded recreational opportunities, which allow for up to a moderate level of resource

modifications to accommodate additional levels and types of use. New trails, campsites, restrooms, and other related infrastructure have the potential to impact wetlands, water quality, and riparian vegetation if improperly located or maintained, which could result in short- and long-term minor to moderate adverse local to regional impacts. However, the exact location of these facilities has not yet been identified; when they are, appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

*James River/Otter Creek*—Under alternative B, Otter Lake would continue to be dredged periodically to remove silt in order to maintain lake qualities for visitors. Routine dredging would result in short-term moderate adverse local impacts due to the temporary degradation of water quality (i.e., increased turbidity and possible release of contaminants stored in the dredge material) and disturbance to fish and wildlife (i.e., disrupt foraging behavior of waterfowl and disturbing substrate used by aquatic invertebrates).

*Peaks of Otter*—Under alternative B, the area surrounding Abbot Lake and along Stony Creek would be zoned historic parkway, which emphasizes the historic character and traditional recreation uses of the area. As a result, many of the existing developments (e.g., the human-made lake and the picnic area within the riparian area of Stony Creek) and visitor-related impacts (e.g., vegetation trampling along the lake and nonpoint source pollution from surface runoff) described under the no-action alternative would continue to have an adverse effect on water quality, riparian vegetation, natural floodplain dynamics, and a historic wetland and disturb native wildlife dependent on these areas. The potential for adding new facilities near the lake to maintain the viability of concession

services would further compound these impacts.

However, this alternative's management concept and the historic parkway zone allow for some modifications of designed landscape areas to enhance protection of sensitive natural resources. By mitigating for some of these impacts, management of the developed areas at Peaks of Otter would result in long-term minor to moderate adverse local impacts on the floodplain, wetlands, riparian areas, and water quality in the Abbott Lake watershed.

*Rocky Knob*—Under alternative B, the upper portion of Rock Castle Gorge would be zoned recreation, which allows for increased visitor use of the area. Additionally, this alternative proposes to improve or expand the Rocky Knob cabins, the lower trailhead parking area, the backcountry camping area, and the trail system. These additional amenities and potential increases in use could degrade water quality, trample riparian vegetation, and disrupt natural processes that affect plants and animals dependent on the area's water-related resources.

These impacts would be exacerbated by existing conditions associated with this area. For example, Rock Castle Creek has already shown signs of water quality degradation, possibly the result of a leaky septic system at the Rocky Knob cabins and the latrine at the backcountry campsite. Also, the size of the lower trailhead parking lot is already constrained by the steep topography and close proximity to the stream in the bottom of the gorge. However, future projects designed to improve or expand these facilities could address these ongoing impacts (i.e., upgrade the septic system at the cabins). Considering these combined effects, there would likely be short- and long-term minor to moderate adverse local impacts on water quality of the stream and its riparian areas.

On the other hand, this alternative's emphasis on multiyear projects to protect, restore, and enhance water-related resources would benefit a number of rare wetlands scattered

throughout this recreation area. These wetlands are gradually disappearing due to the absence of natural fires to inhibit the spread of encroaching nonwetland plant species (e.g., trees and shrubs). These wetland restoration and maintenance efforts would result in long-term moderate beneficial local impacts.

**Blue Ridge Music Center**—Under alternatives B and C, the bottomlands of Chestnut Creek would be zoned special natural resources to place a priority on protecting the stream’s high water quality and intact riparian habitat. In addition, the majority of the upper watershed of this recreation area would be zoned natural, which allows for low-impact recreation (e.g., hiking) with an emphasis on resource protection. Under this zoning approach, the water-related resources of the area would receive long-term moderate beneficial local effects.

Also under both action alternatives, a majority of visitor use would occur within the visitor use zone, which encompasses the amphitheater, interpretive center, shops, and parking areas. Due to this zone’s close proximity to Chestnut Creek, there is a potential for some visitor-related impacts. As described for the no-action alternative, visitors can easily hike down and wander along the stream, increasing the likelihood of trampling vegetation and creating social trails. Overflow parking in the meadow during large events would continue to cause soil compaction, increasing the risk of erosion and surface runoff. Due to these local impacts on riparian vegetation and the slight potential for degrading water quality, there would be some minor adverse impacts.

**Doughton Park**—Under alternatives B and C, agricultural leases at Doughton Park could be modified (e.g., install fencing) to reduce livestock-related impacts on wetlands, streams, and water quality (e.g., vegetation trampling, bank erosion, defecating in water), resulting in long-term moderate beneficial local effects. Also under both action alternatives, the majority of Basin Cove watershed would be zoned natural, which establishes a low tolerance for natural

resource impacts. This would establish a management priority to address the sanitation problems associated with the backcountry campsite, which has degraded the water quality of Basin Creek during peak camping seasons. As a result of installing more adequate pit toilets under this alternative, there would be long-term minor to moderate beneficial local effects. However, horseback riding on Grassy Gap Fire Road would continue to contribute to water quality problems when runoff washes manure into Basin and Cove creeks, as described under the no-action alternative.

Alternatives B and C would also zone the uppermost portion of the watershed as recreation to allow for expanded trail-based recreational opportunities (e.g., additional short hiking trails). These trails could impact a number of headwater streams if improperly designed or inadequately maintained, potentially resulting in long-term minor adverse local impacts on their water quality, riparian vegetation, and overall stream character.

**Julian Price Park**—Under alternative B, the picnic area near Boone Fork would be relocated out of the floodplain to higher ground near Old John’s River Road. This would allow for rehabilitation of the existing picnic area, which periodically degrades water quality, resulting from frequent flooding of the septic system, drain field, restrooms, and parking lot, which wash contaminants into the stream. Visitor activities within the picnic area have also caused devegetation and bank erosion along the stream. As a result of relocating the picnic area, there would be long-term moderate beneficial local impacts on water quality, riparian habitat, and the natural floodplain dynamics along Boone Fork.

Under alternative B, the majority of Julian Price Park would be zoned natural. Within this zone, visitor use would be managed at low levels, allowing for only low-impact recreational activities, to avoid resource degradation. Moreover, degraded sites would be restored in order to reestablish natural



systems and processes. These management prescriptions would help to address possible water quality impacts associated with unregulated tent camping at Hebron Falls, either by designating a backcountry campsite with established low-impact camping guidelines or by closing and rehabilitating the impacted area. Either of these actions would result in long-term minor beneficial local impacts on the stream's water quality.

As stated previously for Doughton Park, agricultural leases in Julian Price Park could also be modified under this alternative to reduce livestock-related impacts on wetlands, streams, and water quality (i.e., install fencing to prevent livestock access to these areas). Furthermore, the wetlands and small streams adjacent to the parkway in this area would be zoned special natural resources, emphasizing their protection. Combined, these management approaches would result in long-term moderate beneficial local effects to these water-related resources.

*Linville Falls*—Under alternative B, the portions of Linville Falls where most visitors frequent would be zoned either visitor services or recreation. Under these management zones, the existing developments along the Linville River would continue to have adverse impacts on the floodplain, riparian area, and stream channel, as described under the no-action alternative. However, this alternative's zoning approach would more proactively manage this popular area's high levels of visitor use. For example, trails to the falls could be improved to reduce trail widening, social trails, and off-trail visitor use, which trample riparian vegetation and increase the potential for surface runoff into the river. These types of improvements would minimize further resource impacts, resulting in a long-term minor beneficial local effect on the area's water-related resources. However, added amenities, such as the campground upgrades proposed under this alternative, could increase this area's popularity, eventually exceeding the capacity of these improvements to support additional visitor use.

*Mt. Pisgah*—Under alternative B, the Mt. Pisgah campground would be reduced in size by moving a number of tent sites away from the bog. In addition, the special natural resource zone would be extended beyond the edge of the bog to include portions of two campground loop roads. This would create a buffer around the bog to reduce the risk of water contamination and decrease visitor disturbances to wetland-dependent wildlife species. As a result, there would be long-term moderate beneficial local impact on this rare high-elevation wetland. However, this alternative could increase the potential for water quality degradation by upgrading existing RV sites with water hookups and comfort stations with showers, placing increased demands on the campground's sewage system and increasing chances of spills from the water system.

Overall, across the entire parkway, its segments, and recreation areas, alternative B would result in both adverse and beneficial effects on the water-related resources of the parkway. The adverse impacts would be short- and long-term, minor to moderate, and local to regional, primarily resulting from increased areas of recreational use zones and new visitor amenities and activity in proximity to wetland or riparian areas. The beneficial impacts would be long-term, minor to moderate, and local to regional, primarily resulting from (1) ecosystem-based management, (2) expanded land protection strategies, (3) regional land management partnerships, (4) new natural and special natural zoning, (5) an emphasis on multiyear projects to protect and restore water-related resources, (6) closing/relocating visitor amenities near sensitive wetlands and riparian areas, and (7) increased efforts in grazing/livestock controls near riparian areas.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the "Cumulative Effects" discussion for alternative A would be the same under this alternative, resulting in short- and long-term moderate adverse local to regional cumulative impacts and long-term moderate beneficial regional cumulative impacts on

water-related resources. The cumulative effects of these actions, in combination with those described for alternative B, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative's contribution to these adverse cumulative effects is expected to be small. However, due to the parkway's importance in providing regional connectivity to other public and private lands that protect these resources and the focus on regionwide resource management strategies, this alternative would contribute intermediate considerable amount to the beneficial cumulative effects.

**Conclusion.** Alternative B would have long-term minor to moderate beneficial local to regional impacts and short- and long-term minor to moderate adverse local to regional impacts on water-related resources. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor to moderate beneficial local to regional cumulative impacts. This alternative's contribution to these cumulative impacts would be small for adverse effects and considerable for beneficial effects.

### Alternative C

**Parkway-wide.** Under alternative C, the parkway's water-related resources would see many of the same benefits described previously for alternative B. These advantages would result from an ecosystem-based approach that emphasizes parkway-wide management strategies and multiyear projects to protect and restore wetlands, riparian areas, floodplains, streams, and water quality. As a result, some areas of the parkway would be managed differently to address natural resource concerns, including areas traditionally managed for visitor use to better protect water resources.

As with both other alternatives, this alternative would protect all state-designated natural heritage areas and globally ranked natural communities, a number of which are rare wetland plant communities, including the High-Elevation Seep, Southern Appalachian Bog, and Swamp Forest-Bog Complex. Under alternative C, the special natural resource zone would be applied to 10,074 acres (12.3%) of parkway lands to further emphasize the protection of these and other unique natural features.

In addition to these benefits, alternative C would protect the broader water-related resources of the parkway by zoning 24,584 acres (29.9%) of the parkway as natural, which places greater emphasis on the overall protection of water-related resources, establishes a lower tolerance for resource impacts, and allows for only low-impact types of recreational activities.

As under alternative B, this alternative would also look beyond the boundaries of the parkway to develop a more regional approach to natural resource management. By expanding partnerships with private landowners, nonprofit organizations, local governments, and state and federal agencies, the parkway would have greater opportunities to protect streams, wetlands, and other habitats that cross ownership boundaries.

These types of alternative management approaches would help to improve the overall integrity of water-related resources along the parkway (e.g., filter pollutants and enhance habitat quality for fish and wildlife) resulting in long-term minor to moderate beneficial local to regional effects, depending on the scale and effectiveness of projects and programs implemented under this alternative.

Alternative C would, however, bring about some adverse impacts, namely those associated with expanded amenities in the visitor services zone. Alternative C would result in the greatest level of upgrades and redesigns to portions of seven of the parkway's nine campgrounds (excluding Roanoke and Mt. Pisgah). These changes

could include expanded sewage treatment facilities, additional paved areas, and greater numbers of visitors, potentially causing short- and long-term minor to moderate adverse local to regional impacts on nearby streams (e.g., water quality degradation, increased runoff rates, and riparian vegetation trampling). However, because the exact location of these facilities has not yet been identified, additional appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act.

**Parkway Recreation Areas.** Only those parkway recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

*James River/Otter Creek*—Under alternative C, the dam and spillway at Otter Lake would be removed and dredging would be discontinued in order to restore the historic wetland. Removal of the dam and spillway would result in short-term moderate adverse local impacts due to the temporary degradation of water quality and stream channel characteristics (i.e., increased turbidity and siltation of Otter Creek downstream) and disturbance to fish and wildlife (i.e., loss of lake habitat). Restoration of the wetland would result in long-term moderate beneficial local effects to the water-related resources of the area by reestablishing native wetland and riparian species, natural stream channel processes, and floodplain dynamics. Additional appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act before implementation to thoroughly analyze the environmental consequences of this action.

*Peaks of Otter*—Under alternative C, the area surrounding Abbot Lake and Stony Creek would be zoned visitor services, which supports moderate to high levels of development and visitor use. As a result, many of the existing developments (e.g., the human-made lake and the picnic area within the riparian area of Stony Creek) and adverse

visitor-related impacts (e.g., vegetation trampling along the lake and nonpoint source pollution from surface runoff) described under the no-action alternative would continue. Under this alternative, existing developments could also be upgraded or expanded to enhance services and amenities for visitors (e.g., redesign of the campground), which would further compound these impacts. As a result, management of the developed areas at Peaks of Otter would result in short- and long-term moderate adverse local impacts on water quality, riparian vegetation, natural floodplain dynamics, and a historic wetland.

However, this alternative's emphasis on natural resource protection and the designation of the majority of Peaks of Otter as natural zone would prevent these types of impacts from expanding beyond the area affected by existing development and visitor use.

*Rocky Knob*—Under alternative C, the majority of Rock Castle Gorge would be zoned natural, placing a greater emphasis on the restoration of a number of rare wetlands in this recreation area that are gradually degrading due to the absence of natural fire disturbance. These regular vegetation maintenance efforts would result in long-term moderate beneficial local effects on these habitats and their associated rare plants and animals. The natural zone would also prescribe management actions to improve the degraded water quality of Rock Castle Creek, which is possibly the result of a leaky septic system at the Rocky Knob cabins and the latrine at the backcountry campsite further downstream. However, a portion of this stream is zoned special cultural resource, which would place less emphasis on correcting this problem. Overall, there would be long-term minor to moderate beneficial local impacts on the wetlands and water quality of the stream at Rocky Knob.

*Blue Ridge Music Center*—Under alternatives B and C, the bottomlands of Chestnut Creek would be zoned special natural resources to place a priority on protecting the stream's

high water quality and intact riparian habitat. In addition, the majority of the upper watershed of this recreation area would be zoned natural, which allows for low-impact recreation (e.g., hiking) with an emphasis on resource protection. Under this zoning approach, the water-related resources of the area would receive long-term moderate beneficial effects.

Also under both action alternatives, a majority of visitor use would occur within the visitor use zone, which encompasses the amphitheater, interpretive center, shops, and parking areas. Due to this zone's close proximity to Chestnut Creek, there is a potential for some visitor-related impacts. As described for the no-action alternative, visitors can easily hike down and wander along the stream, increasing the likelihood of trampling vegetation and creating social trails. Overflow parking in the meadow during large events would continue to cause soil compaction, increasing the risk of erosion and surface runoff. Due to these local impacts on riparian vegetation and the slight potential for degrading water quality, there would be some minor adverse impacts.

*Doughton Park*—Under alternatives B and C, agricultural leases at Doughton Park could be modified (e.g., install fencing) to reduce livestock-related impacts on wetlands, streams, and water quality (e.g., vegetation trampling, bank erosion, defecating in water), resulting in long-term moderate beneficial local effects.

Also under both action alternatives, the majority of Basin Cove watershed would be zoned natural, which establishes a low tolerance for natural resource impacts. This would establish a management priority to address the sanitation problems associated with the backcountry campsite, which has degraded the water quality of Basin Creek during peak camping seasons. As a result of installing more adequate pit toilets under this alternative, there would be long-term minor to moderate beneficial local effects. However, horseback riding on Grassy Gap Fire Road would continue to contribute to water quality

problems when runoff washes manure into Basin and Cove creeks, as described under the no-action alternative.

Alternatives B and C would also zone the uppermost portion of the watershed as recreation to allow for expanded trail-based recreational opportunities (e.g., additional short hiking trails). These trails could impact a number of headwater streams if improperly designed or inadequately maintained, potentially resulting in long-term minor adverse local impacts on their water quality, riparian vegetation, and overall stream character.

*Julian Price Park*—Although some enhancements to the designated picnic area would result from upgraded comfort stations and other historic parkway zone actions under this alternative, the picnic area would remain in its existing location. Thus, it would continue to cause adverse impacts on water-related resources, as described under the no-action alternative (due to frequent flooding of the picnic area's septic system, drain field, restrooms, and parking lot, combined with the high concentration of picnic area users).

Under alternative C, the area surrounding Boone Fork Trail, Old John's River Road, and Green Knob Trail would be zoned recreation. This zone would allow for additional types and levels of trail-based recreation, such as mountain biking on certain designated trails. These increases in recreation could lead to erosion and vegetation loss, impacting nearby tributary streams and wetlands. However, by zoning the area as recreation, management could also improve trail designs to make them more resilient to such use (e.g., install additional foot bridges, water bars, or reroute trails away from wet areas as necessary). These actions would mitigate for some of these potential impacts.

The recreation zone in this area would also allow for the establishment of a designated backcountry camping area at Hebron Falls, which would address riparian vegetation trampling and potential water quality degradation associated with unregulated tent

camping at this site. If established, the new camping area would result in long-term minor beneficial impacts on these water-related resources by containing overnight use to a specific location, by providing toilet facilities, and by establishing low-impact camping guidelines to reduce impacts on the area. However, if additional camping exceeds the capacity of the designated area, then adverse impacts would likely return.

As stated previously for Doughton Park, and as in alternative B, agricultural leases in Julian Price Park could also be modified under this alternative to reduce livestock-related impacts on wetlands, streams, and water quality (i.e., install fencing to prevent livestock access to these areas). Furthermore, the wetlands and small streams adjacent to the parkway in this area would be zoned special natural resources, emphasizing their protection. Combined, these management approaches would result in long-term moderate beneficial local effects to these water-related resources.

Under alternative C, a portion of a paved, multiuse trail could be established through Julian Price Park for pedestrians and bicyclists to safely recreate in the area. Due to the proximity of the special natural resource zone next to the parkway (and the wetlands it protects), construction of the paved trail could conflict with this zone's approach to maintain pristine resource conditions. If the trail is constructed parallel to the parkway and crosses through adjacent wetlands, it could fragment habitat, disrupt hydrologic processes, and degrade water quality, resulting in long-term moderate adverse local impacts.

However, if the trail is designed to go around these sensitive areas (or elevated over them), these impacts would be avoided. Because the exact location and design of the trail has not been determined, additional appropriate environmental compliance documentation would be prepared in accordance with the National Environmental Policy Act before implementation to more thoroughly analyze the environmental consequences of this action.

*Linville Falls*—Under alternative C, the visitor contact station would be relocated out of the floodplain and the existing facility would be converted to a trailhead shelter. This would reduce the risk of flooding to the new contact station, but because the existing site would not be rehabilitated to a more natural condition, this action would not measurably benefit floodplain processes. In addition, the redesign of the campground to better accommodate visitors (e.g., widen roads for RVs and enlarge tent sites) would further modify natural floodplain conditions (i.e., increased run-off rates, decreased infiltration rates). These expanded amenities would result in long-term moderate adverse local impacts on the floodplain, especially if stream channel modifications (e.g., dikes, riprap) become necessary to protect additional infrastructure.

Under alternative C, the majority of Linville Falls would be zoned natural, including the popular trail system to the falls. Within this zone, visitor use would be managed at low levels to avoid resource degradation. This zone would also establish a low tolerance for natural resource impacts, allow for only minimal facilities, and provide opportunities for visitors to experience solitude and tranquility. By achieving these desired resource conditions, this zoning approach would reduce ongoing impacts from trail widening, social trails, and off-trail visitor use, which trample riparian vegetation and increase the potential for erosion and runoff into the river. As a result, there could be long-term minor to moderate beneficial local effects on the riparian areas and water quality of Linville River. However, due to the current popularity of this recreation area, achieving these desired conditions would be challenging. In fact, the additional campground amenities proposed under this alternative would likely attract greater numbers of visitors to the trail system, placing more pressure on management to reduce visitor-related impacts within the natural zone.

*Mt. Pisgah*—Under alternative C, the Mt. Pisgah campground would be reduced in size by removing a number of tent sites that are

near the bog. In addition, the special natural resource zone would be extended beyond the edge of the bog to include portions of two campground loop roads. These actions would create a buffer around the bog to reduce the risk of water contamination and decrease visitor disturbances to wetland-dependent wildlife species. As a result, there would be long-term moderate beneficial local impact on this rare high-elevation wetland. However, this alternative could increase the potential for water quality degradation by upgrading existing RV sites with water hookups and comfort stations with showers, placing increased demands on the campground's sewage system and increasing chances of spills from the water system.

Overall, across the entire parkway, its segments, and recreation areas, alternative C would result in both adverse and beneficial effects on the water-related resources of the parkway. The adverse impacts would be short- and long-term minor to moderate and local to regional, primarily resulting from increased areas of recreational use zones, new visitor amenities and activity in proximity to wetland or riparian areas, and trail development near wetlands. The beneficial impacts would be long-term minor to moderate and local to regional, primarily resulting from ecosystem-based management, expanded land protection strategies, regional land management partnerships, large areas of new natural and special natural zoning, an emphasis on multiyear projects to protect and restore water-related resources, closing/relocating visitor amenities near sensitive wetlands and riparian areas, and increased efforts in grazing/livestock controls near riparian areas.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the "Cumulative Effects" section for alternative A would be the same under this alternative, resulting in short- and long-term minor to moderate adverse local to regional cumulative impacts and long-term minor beneficial local to regional cumulative impacts on water-related resources. The cumulative effects of these actions, in

combination with those described previously for alternative C, would result in short- and long-term minor to moderate adverse local to regional impacts and long-term minor to moderate beneficial local to regional impacts. This alternative's contribution to these adverse cumulative effects is expected to be small. However, due to the parkway's importance in providing regional connectivity to other public and private lands that protect these resources and the focus on regionwide resource management strategies, this alternative would contribute a considerable amount to these beneficial cumulative effects.

**Conclusion.** Alternative C would have long-term minor to moderate beneficial local to regional impacts and short- and long-term minor to moderate adverse local to regional impacts on water-related resources. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse local to regional impacts and long-term minor to moderate beneficial local to regional impacts. This alternative's contribution to these cumulative impacts is expected to be small for the adverse effects and considerable for the beneficial effects.

## AIR QUALITY

### Methods and Assumptions for Analyzing Impacts

The area of consideration for this impact topic includes the 29 counties in Virginia and North Carolina that the parkway passes through. This geographic region was selected because it includes large portions of the parkway's viewsheds and the analysis considers county-level socioeconomic data that indirectly correlates to air quality conditions. For example, changes in population, land uses, industry, transportation, and tourism all affect air pollution levels. Not only does this impact air quality in the park, but also the quality of scenic views as seen from the parkway's numerous vistas and overlooks.

Impacts on the parkway's air quality are based on anticipated changes from baseline data and national standards as measured at authorized air quality monitoring stations. The impact intensity thresholds used to compare management alternatives are defined as follows:

**Negligible:** Impacts would result in a change to local air quality, but the change would be so slight that it would not be of any measurable or perceptible consequence. These changes would not affect the attainment status of the airshed and would be consistent with the airshed designation of the parkway. Emissions would be substantially less than any applicable air emissions regulatory thresholds.

**Minor:** Impacts would result in a detectable change to local air quality, but the change would be small and of little consequence. These changes would not affect the attainment status of the airshed and would be consistent with the airshed designation of the parkway. Emissions would be considerably different than any applicable air emissions regulatory thresholds.

**Moderate:** Impacts would result in a change to local air quality that would be readily detectable. Impacts could affect the attainment status of the airshed and could be inconsistent with the airshed designation of the parkway.

**Major:** Impacts would result in a change(s) to regional air quality that would be severe. These changes would affect the attainment status of the airshed and/or be inconsistent with the airshed designation of the parkway.

### **Alternative A—No-action**

**Parkway-wide.** Under alternative A, the parkway would continue to be managed as a class II attainment area, as designated by Congress. Air quality with class II areas is protected under the act, but less stringently than in class I areas, which include international parks, national wilderness areas, and national parks larger than 6,000 acres

(e.g., Shenandoah and Great Smoky Mountains national parks).

The class II designation of the parkway does not diminish the importance of protecting and improving air quality to ensure the parkway provides high quality scenic and recreational experiences for visitors. However, class II areas, in contrast to class I areas, do not typically receive the same level of technical assistance or funding in order to pursue more extensive air quality monitoring or develop collaborative efforts with other federal, state, or local agencies or research/academic institutions. As a result, the parkway has not developed a more comprehensive management approach to improve air quality conditions.

Under the no-action alternative, there would be no substantial changes in the operation or visitation of Blue Ridge Parkway, so no noticeable changes to air quality trends would be anticipated. However, even without substantial changes to parkway management, there would likely be a continuation of poor air quality conditions as a result of ongoing uses within and outside the boundary of the parkway. This is evident from NPS air quality monitoring results described in "Chapter 3: Affected Environment," which found that ozone levels, visibility, and atmospheric deposition ranged from a moderate condition to a significant concern. On days when air quality conditions are poor, regional haze can substantially diminish visibility at any one of the 264 overlooks and vistas along the parkway. Also, ozone pollution and acid deposition can adversely affect vegetation, streams, and soils throughout the parkway.

Overall, across the entire parkway, its segments, and recreation areas, the primary contributor to air quality degradation within the parkway is motor vehicle emissions caused by visitors and commuters traveling the parkway. Other contributors include the operation of maintenance equipment, campfires, generators, and heating systems to name a few. Because these sources are relatively evenly distributed along the parkway, a recreation area and segment-

specific analysis is not included for this impact topic. And collectively, under current management, these contributing factors would continue to result in long-term minor adverse regional impacts on air quality.

**Cumulative Effects.** Most sources of air pollution affecting the parkway come from outside the parkway and are expected to continue to degrade air quality over the coming years. Population is projected to increase an average 15% in the 29 counties surrounding the parkway by the year 2030. With this population growth, economic expansion is also expected to continue. All counties are projected to show an increase in earnings in all industrial categories, including agricultural and natural resources, construction and manufacturing, sales and services, and government. The annual change in the number of building permits is another indicator of economic growth and is also expected to increase in the region based on current trends. From 1990 to 2000, building permits have increased by an average of 5.7% each year in the 29 counties.

All of these changes increase air pollutant emissions. Of these, motor vehicle emissions are by far the largest source of air pollution, which is closely linked to population. Although emission reductions are projected due to new EPA regulations mandating cleaner fuels and cleaner engines, these improvements may be negated by regional population and economic growth over the long term. Overall, the current and anticipated net increases in air pollutant emissions would result in a long-term moderate adverse regional impact.

The extensive network of national forests, state parks, and privately owned protected areas adjacent to the Ridge, Black Mountain, and Pisgah segments of the parkway, along with two national parks on either end, enhance regional air quality conditions. Without these lands, the entire stretch of the parkway would be susceptible to adjacent development, further exacerbating air pollution problems. Continued protection of these adjacent public and private lands would

result in long-term minor beneficial regional effects on air quality.

The impacts of these past, present, and reasonably foreseeable future actions, in combination with those described for the no-action alternative, would result in long-term moderate adverse regional cumulative impacts and long-term minor beneficial regional cumulative impacts. Implementation of the no-action alternative would only have a small effect on air quality conditions due to the more significant influences of regional population and economic growth.

**Conclusion.** Implementing the no-action alternative would result in long-term minor adverse regional impacts on the air quality of the parkway. There would be long-term minor to moderate adverse regional cumulative impacts and long-term minor beneficial regional cumulative impacts on air quality. However, this alternative's contribution to these effects would be small.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** Under alternative B, the parkway would continue to be actively managed as a traditional scenic driving experience, while also enhancing outdoor recreational opportunities and promoting a regional approach to ecosystem management. Although improving amenities and services would likely draw some additional visitors, there is not expected to be a substantial change in visitation levels to the parkway under this alternative (see the "Visitor Use and Experience" section of this chapter). As a result, emissions from motor vehicles, maintenance equipment, campfires, and other pollution sources would be relatively similar to the no-action alternative. Consequently, there would likely be a continuation of poor air quality conditions on certain days as a result of ongoing uses within and outside the boundary of the parkway. With improved visitor facilities, expanded recreation opportunities in some areas, and extended visitor service seasons at selected recreation areas, the parkway visitation could increase



under alternative B. Thus, this alternative could contribute to the poor air quality conditions, resulting in a long-term minor adverse regional impact on air quality.

Under alternatives B and C, the parkway would pursue a class I area redesignation by Congress to better address these air quality issues. If successful, this new classification for the parkway would establish the highest degree of air quality protection possible with only a small amount of certain kinds of additional air pollution allowed. This more stringent standard along with a proactive management approach (i.e., comprehensive monitoring and a multipollutant reduction strategy) could prevent further air quality degradation along the parkway and perhaps even enhance air quality conditions on certain days. As a result, there could be long-term minor to moderate beneficial regional impacts on air quality of the parkway under this alternative.

In addition, under alternatives B and C, the parkway would develop a more regional approach to improving natural resource connectivity. This could include programs that monitor and address broader air quality issues, such as regional haze problems that can substantially reduce visibility along parkway overlooks and vistas. A more regional approach would also emphasize the need to collaborate with state and local air pollution control agencies. Furthermore, this alternative proposes mass transit connections and shuttle systems to provide alternative transportation to the parkway, which would reduce emissions from private vehicles on the parkway. As a result of these efforts and proposals, there could be long-term moderate beneficial regional impacts on air quality.

Across the entire parkway, its segments, and recreation areas, alternative B would result in both adverse and beneficial effects on air quality. The adverse impacts would be long-term minor and regional, primarily resulting from increasing vehicular emissions from likely increased visitation (due to expanded visitation opportunities and seasons). The beneficial impacts would be long-term, minor

to moderate, and regional, primarily resulting from more stringent air standards, a new air quality management approach, and regional collaboration efforts to reduce air pollution.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” section for alternative A would be the same under this alternative, resulting in long-term moderate adverse regional cumulative impacts and long-term minor beneficial regional cumulative impacts. The impacts of these actions, in combination with those described for the alternative B, would result in long-term minor to moderate adverse regional cumulative effects and long-term minor to moderate beneficial regional cumulative impacts. Implementation of the alternative B would only have a small effect on air quality conditions due to the more significant influences of regional population and economic growth. However, if the parkway was redesignated as a class I area, this alternative could have more influence on reducing regional air pollution.

**Conclusion.** Implementing alternative B would result in long-term minor adverse regional effects and long-term minor to moderate beneficial regional effects on the air quality of the parkway. There would be long-term minor to moderate adverse regional cumulative impacts and long-term minor to moderate beneficial regional cumulative impacts on air quality. This alternative’s contribution to these cumulative effects would be small.

### Alternative C

**Parkway-wide.** Under alternative C, the parkway would continue to be managed primarily for scenic driving, while also improving natural resource connectivity and enhancing visitor services. The campground upgrades proposed under this alternative would likely draw some additional visitors, but there is not expected to be any substantial change in visitation levels to the parkway under this alternative (see the “Visitor Use

and Experience” section of this chapter). As a result, emissions from motor vehicles, maintenance equipment, campfires, and other pollution sources would be relatively similar to the no-action alternative. Consequently, there would likely be a continuation of poor air quality conditions on certain days as a result of ongoing uses within and outside the boundary of the parkway. With improved visitor facilities, expanded recreation opportunities in some areas, and extended visitor service seasons at selected recreation areas, the parkway visitation could increase slightly under alternative C. Thus, this alternative could contribute to the poor air quality conditions, resulting in a long-term negligible to minor adverse regional impact on air quality.

Under alternatives B and C, the parkway would pursue a class I area redesignation by Congress to address these air quality issues. If successful, this new classification for the parkway would establish the highest possible degree of air quality protection with only a small amount of certain kinds of additional air pollution allowed. This more stringent standard along with a proactive management approach (i.e., comprehensive monitoring and a multipollutant reduction strategy) could prevent further air quality degradation along the parkway and perhaps even enhance air quality conditions on certain days. As a result, there could be long-term minor to moderate beneficial regional impacts on air quality of the parkway.

In addition, under alternatives B and C, the parkway would develop a more regional approach to improving natural resource connectivity. This could include programs that monitor and address broader air quality issues, such as regional haze problems that can substantially reduce visibility along parkway overlooks and vistas. A more regional approach would also emphasize the need to collaborate with state and local air pollution control agencies. Furthermore, these alternatives propose mass transit connections and shuttle systems to provide alternative transportation to the parkway, which would reduce emissions from private vehicles on the

parkway. As a result of these efforts and proposals, there could be long-term moderate beneficial regional impacts on air quality.

Overall, across the entire parkway, its segments, and recreation areas, alternative C would result in both adverse and beneficial effects on the air quality of the parkway. The adverse impacts would be long-term minor and regional, primarily resulting from increasing vehicular emissions from likely increased visitation (due to expanded visitation opportunities and seasons). The beneficial impacts would be long-term, minor to moderate, and regional, primarily resulting from more stringent air standards, a new air quality management approach, and regional collaboration efforts to reduce air pollution.

**Cumulative Effects.** The past, present, and reasonably foreseeable future actions described under the “Cumulative Effects” section of alternative A would be the same under this alternative, resulting in long-term moderate adverse regional cumulative impacts and long-term minor beneficial regional cumulative impacts. The impacts of these actions, in combination with those described for the alternative C, would result in long-term negligible to moderate adverse regional cumulative effects and long-term minor to moderate beneficial regional cumulative impacts. Implementation of the alternative B would only have a small effect on air quality conditions due to the more significant influences of regional population and economic growth. However, if the parkway was redesignated as a class I area, this alternative could have more influence on reducing regional air pollution.

**Conclusion.** Implementing alternative C would result in long-term minor adverse regional effects and long-term minor to moderate beneficial regional effects on the air quality of the parkway. There would be long-term minor to moderate adverse regional cumulative impacts and long-term minor to moderate beneficial regional cumulative impacts on air quality. This alternative’s contribution to these cumulative effects would be small.

# CULTURAL RESOURCES

## INTRODUCTION

The analysis of the environmental consequences of alternatives A, B, and C on cultural resource components of the Blue Ridge Parkway is based on the professional judgment of parkway staff, National Park Service planners, and other specialists in the field of cultural resource management. This analysis describes impacts of the management alternatives at two different scales: a parkway-wide analysis, which describes the overall effect of broad parkway-wide strategies; and a parkway segment and recreation area analysis, which looks at more site-specific impacts on the parkway's 7 segments and 15 recreation areas.

Potential impacts (direct, indirect, and cumulative effects) are described in terms of type, context (site-specific, local, or regional), duration (short-term, long-term, or permanent), and intensity (negligible, minor, moderate, or major degree or severity of effects). Because definitions of intensity (negligible, minor, moderate, or major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this environmental impact statement.

In accordance with section 106 of the National Historic Preservation Act (36 CFR 800), "Protection of Historic Properties," impacts on cultural resources should be identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the national register; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the national register; and (4) considering ways to avoid, minimize, or mitigate adverse effects. Under the Advisory Council on Historic Preservation's (Advisory Council) regulations, a determination of either adverse effect or no adverse effect must also be made for both affected national register-

listed and national register-eligible cultural resources. Additionally, section 110(f) of the National Historic Preservation Act (see 36 CFR 800.10) includes special requirements for undertakings that could involve impacts to national historic landmarks. If the parkway is designated a national historic landmark in the future, these requirements and applicable processes will also apply.

The 2008 Programmatic Agreement between the National Park Service, Advisory Council, and the National Conference of State Historic Preservation Officer allows for streamlined section 106 compliance for a large number of low-impact or repetitive activities that occur on a daily basis at the parkway. This programmatic agreement applies only to undertakings involving cultural resources for which national register eligibility has been previously determined with state historic preservation office concurrence, and for undertakings will not have adverse effects per 36 CFR 800.

An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion in the national register (e.g., diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance, or be cumulative (36 CFR Part 800.5 Assessment of Adverse Effects). A determination of no adverse effect means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resources that qualify it for inclusion in the national register.

Council on Environmental Quality regulations and the National Park Service's *Conservation Planning, Environmental Impact Analysis and Decision-making* (Director's Order 12) also call for a discussion of the appropriateness of mitigation, as well as an analysis of how

effective the mitigation would be in reducing the intensity of a potential impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under the National Environmental Policy Act only. It does not suggest that the level of effect as defined by section 106 is similarly reduced. Although adverse effects under section 106 may be mitigated, the effect remains adverse.

A section 106 summary is included in the impact analysis sections for the action alternative. The section 106 summary, which is applicable only to lands owned or managed by the National Park Service, is intended to meet the requirements of section 106 and is an assessment of the effects of the undertaking (implementation of the alternative) on cultural resources, based on the criteria of effects and criteria of adverse effects found in the advisory council's regulations.

To provide a thorough analysis of effects on the parkway's cultural resources, this section has been organized by the four impact topics listed below, which correspond to the cultural resource topics described in "Chapter 3: Affected Environment." Similar topics have been grouped together to limit redundancy and to present the analysis in a concise, understandable way.

## **HISTORIC STRUCTURES**

### **Methods and Assumptions for Analyzing Impacts**

Impacts on historic structures were evaluated by comparing projected changes resulting from the action alternatives (B and C) to those of the no-action alternative (A). The thresholds used to determine impacts on these resources are defined as follows.

**Negligible:** Impacts would be at the lowest levels of detection – barely perceptible and measurable. For purposes of section 106, the determination of effect would be no adverse effect.

**Minor:** Impacts would affect character-defining features but would not diminish the overall integrity of the building or structure. For purposes of section 106, the determination of effect would be no adverse effect.

**Moderate:** Impacts would alter a character-defining feature(s), diminishing the overall integrity of the building or structure to the extent that its national register eligibility could be jeopardized. For purposes of section 106, the determination of effect would be adverse effect.

**Major:** Impacts would alter character-defining features, diminishing the integrity of the building or structure to the extent that it would no longer be eligible to be listed on the national register. For purposes of section 106, the determination of effect would be adverse effect.

**Cumulative Impacts.** The Council on Environmental Quality regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives, including the no-action alternative.

Cumulative impacts were determined by combining the impacts of the alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Blue Ridge Parkway and, if applicable, the surrounding region.

## **Parkway-wide Actions Common to All Alternatives**

For all alternatives, parkway-wide historic structures that are in keeping with the parkway's original design intent would be given priority for preservation as contributing elements to the parkway as a national register-eligible national historic landmark. This prioritization would be a long-term beneficial impact on historic structures. Moreover, designation of the parkway as a listed national historic landmark would have a beneficial impact on all parkway cultural resources, including historic structures. Continued priority for historic preservation would benefit historic structures through national register listing and appropriate preservation activities. Historic views and vistas associated with historic structures would be inventoried as the basis of informed decision making in the future regarding how the views and vistas should be preserved. Impacts would be long-term and beneficial.

The surveys and research necessary to determine the eligibility of a structure for listing in the national register, or for designating the Blue Ridge Parkway as a national historic landmark, are a prerequisite for understanding the resource's significance, as well as the basis of informed decision making in the future regarding how such resources should be managed. Such surveys and research, as well as nominations to the national register or designation as a national historic landmark, would be a long-term beneficial impact to historic structures.

All alternatives include working with partners to avoid sensitive resource areas and relocating some sections of the Appalachian Trail. Under alternative C, the development of new multiuse trails could constitute an adverse impact on historic structures, which could be disturbed or destroyed with the introduction of new features and elements. The impacts from the possible destruction of historic structures would be site-specific and could be kept in the minor to moderate range through appropriate mitigative measures. The use of areas with existing disturbance and

construction within the existing footprint of prior construction would help to minimize any of the above impacts.

Campground upgrades at the nine parkway campgrounds would be accomplished within the existing design and configuration of the historic campground structures, such as comfort stations. Potential adverse impacts on the historic structures could result from adaptations for universal accessibility and the introduction of noncontributing elements to the historic structures. If additions to provide for universal accessibility are designed in keeping with the historic setting, impacts could be mitigated, and as a result, potential adverse impacts would be negligible to minor intensity, site-specific, and long-term.

Maintenance of the other existing infrastructure and facilities would be a beneficial long-term impact on historic structures because no disturbance or changes to the historic infrastructure would occur.

Although concession services determined to be no longer economically feasible would be eliminated and the structures housing those services would either be adaptively used or removed, these actions would not include facilities that national register-listed or -eligible for listing because they would be exempted from removal under this action. Therefore, the impact of planned concession removal to historic structures would be site-specific, negligible to minor and short-term because these activities likely would not be noticeable to historic structures.

## **Alternative A—No-action**

**Parkway-wide.** The parkway's existing land protection program under alternative A would result in long-term beneficial impacts on cultural resources. Acquisition of conservation easements and land from willing sellers would benefit historic structures through added protection.

Under alternative A, management of natural resources could pose a site-specific short-term

negligible to minor adverse impact on historic structures, as parkway staff would have to respond as needed to activities related to natural resources.

The continued management of designed landscape features, roadsides, vistas, and agricultural leases for primarily scenic and recreational purposes would be a beneficial impact on historic structures because there would be no anticipated disturbance to these resources.

Under alternative A, historic structures would benefit from existing partnership management strategies that would continue to grow and develop. Continued implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's historic structures and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism.

Working reactively with parkway stakeholders, neighbors, and local governments using the current Scenery Conservation Management Strategies under alternative A would be of negligible benefit to cultural resources. There would be no adverse impacts on historic structures related to scenery conservation under alternative A.

Generally, historic structures would benefit for the long term from maintenance of current use of the parkway trails and management relative to trails because there would be no new disturbance and no introduction of noncontributing elements to national register-listed or -eligible properties.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 3: Plateau*—Continued NPS management of the historic Kelley School would allow for continued monitoring of the

resource as a historic structure. The presence of law enforcement staff could curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. Adverse impacts to the historic structure from the daily wear-and-tear of continued use would be long-term and of negligible to minor intensity.

*Segments 4 and 6: Highlands and Asheville*—Continued partnering with local stakeholders would benefit all cultural resources through directing use away from fragile historic sites.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*James River/Otter Creek*—Upgrading certain comfort stations that are historic structures in the no-action alternative would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* (and other current NPS guidance concerning new construction and historic buildings, when available), any adverse impacts would be of negligible to minor intensity and long-term.

*Peaks of Otter*—Under the no-action alternative, the possible adaptive reuse of concession facilities and comfort station upgrades to historic structures would involve providing showers and RV water and electrical hookups, which would require expanded sewage treatment facilities and electrical lines. Such modifications to historic structures would be undertaken in accordance

with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

**Mabry Mill**—Under the no-action alternative, adverse impacts on historic structures from the adaptive reuse of concession facilities as a visitor contact station in the area would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

**Doughton Park**—The Doughton Park recreation area contains the Brinegar Cabin, which is listed in the national register. Continued deteriorating of the landscape and setting surrounding the building could jeopardize the site's national register eligibility, and such actions would result in an adverse impact that would be site-specific, moderate, and long-term.

**Cumulative Impacts.** Over the years, historic structures outside the parkway may have been demolished for agriculture and the development and expansion of communities.

Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region could result in loss or diminished integrity of historic structures, increased vandalism or other illegal activities, or unsupervised use. Cumulative impacts from these activities have been adverse, moderate, and long-term.

As described above, implementation of the no-action alternative would result in both long-term minor to moderate adverse effects and beneficial effects to historic structures. Both the beneficial and minor to moderate long-term adverse impacts of this alternative, in combination with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate adverse cumulative effect. The adverse effects of the no-action alternative, however, would be a small component of the adverse effect cumulative impact.

**Conclusion.** Alternative A would have long-term minor to moderate adverse impacts and long-term beneficial impacts on historic structures. Impacts of this alternative, combined with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in local long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these adverse impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** Under alternative B, there would be potential impacts on historic structures through the construction of new grade separation structures when at-grade crossings are replaced. Impacts would be caused by the potential modification of structures or changes in access and use in the vicinity of the construction. The impacts would be site-specific and could be kept in the minor to moderate range through appropriate mitigative measures, such as sensitive redesign in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. The use of areas with existing disturbance and construction within the existing footprint of prior construction would help to minimize any of the above impacts.

Sensitive design would ensure that improvements to walkways, trails, and parking areas adjacent to historic structures or for making walkways, trails, and parking structures universally accessible would minimally affect the scale and visual relationships among the structure and site features. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the existing association between the structure and the surrounding landscape. Any adverse impacts would be long-term and minor intensity.

Planned facility upgrades, such as providing showers and RV water and electrical hookups and lines, and additions of new facilities for concessions under alternative B would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary*

*of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

Historic structures used for interpretation, whether staffed or unstaffed, could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Like alternative A, alternative B would also have long-term beneficial impacts on historic structures from the land protection program that includes acquisition of conservation easements and land from willing sellers. Alternative B's beneficial impact would be farther reaching to include enhanced beneficial impacts on the preservation of historic structures through acquisition and the targeting of specific cultural resources to be acquired. The establishment of criteria for acquisition and protection would further enhance preservation of all cultural resources, including historic structures, for a long-term beneficial impact.

Implementation of enhanced partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's historic structures and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. Impacts would be long-term and beneficial.



Generally, historic structures would benefit for the long term from maintenance of current use of the parkway trails and management relative to trails because there would be no new disturbance and no introduction of noncontributing elements to national register-listed or -eligible properties.

As under alternative A, under alternative B historic structures would benefit for the long term from maintenance of current use of the parkway trails and management relative to trails because there would be no new disturbance and no introduction of noncontributing elements to national register-listed or -eligible properties.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 1: Ridge*—Improvements to the north entrance and providing additional visitor contacts and working with partners would likely be beneficial to cultural resources, including historic structures, because visitors would enter with additional historical interpretation and orientation, which would be an indirect long-term benefit to all cultural resources

*Segment 3: Plateau*—NPS management of the Kelley School would allow for continued monitoring of the resources. The presence of law enforcement staff could curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. Adverse impacts to the historic structure from the daily wear-and-tear of continued use would be long-term and of negligible to minor intensity.

*Segments 4 and 6: Highlands and Asheville*—Working with partners to protect cultural resources, including historic structures, would benefit historic structures in the segment.

Sensitive design would ensure that improvements to walkways, trails, and parking areas adjacent to historic structures, or for making walkways, trails, and parking

structures universally accessible, would minimally affect the scale and visual relationships among the structure and site features. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the existing association between the structure and the surrounding landscape. Any adverse impacts would be long-term and minor in intensity.

*Segment 7: Pisgah*—Redesign of the visitor entry and exit experience would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*Humpback Rocks*—Drawing attention to the historic Howardsville Turnpike route under alternative B would cause a potential minor site-specific adverse impact through increased use of the historic structures present in this segment. Increased use of structures from increased visitation could lead to a rise in vandalism and general wear and tear of historic structures. The improved interpretation of the turnpike would be a beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site through the marking of the turnpike that would discourage vandalism and could lead to better preservation of all cultural resources.

The longer visitor use season in this area would allow for historic structures to be used for interpretation, whether staffed or unstaffed. Increased use could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Zoning at Humpback Rocks under alternative B is primarily focused on recreation and natural zoning. In the recreation zone, cultural resources such as historic structures would be used to support interpretation and other visitor services which could include a minor adverse site-specific short-term impact on such resources due to potential vandalism and wear and tear from increased use. At the same time, improved interpretation of the turnpike would be a beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site through the marking of the turnpike that would discourage vandalism and could lead to better preservation of all cultural resources. Where there is zoning for natural, scenic character, and historic parkway, historic structures would be well protected and would primarily be beneficially impacted for the long term as historic structures contributing to national historic landmark designation and national register eligibility would be protected and emphasized.

*James River/Otter Creek and Peaks of Otter*—New facilities or upgrades in these areas under alternative B would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). New additions to

historic structures would be similar in scale, size and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), any adverse impacts would be of negligible to minor intensity and long-term.

Historic structures used for interpretation, whether staffed or unstaffed, could suffer wear and tear from visitation and vandalism due to the longer visitor use season proposed under alternative B.

Zoning at James River/Otter Creek and the Peaks of Otter is primarily focused on recreation. In the recreation zone, cultural resources such as historic structures would be used to support interpretation and other visitor services. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

*Peaks of Otter*—Although zoning at the Peaks of Otter under alternative B is primarily focused on recreation, zoning for natural, scenic character, historic parkway structures would be better protected and would primarily be beneficially impacted for the long term as historic structures contributing to national historic landmark designation and national register eligibility would be protected and emphasized. The special cultural resource

zones at Saunders Farm and Johnson Farm would provide for beneficial impacts on historic structures through added protection.

**Roanoke Mountain and Smart View**—Although zoning at Roanoke Mountain and Smart View is focused on recreation under alternative B, there is an added natural zone surrounding the Roanoke Mountain Loop. In the recreation zone in both recreation areas, historic structures would be used to support interpretation and other visitor services which could be an adverse short-term site-specific impact on such resources due to potential vandalism and wear and tear from increased use. At the same time, improved interpretation of the turnpike would be a beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site through the marking of the turnpike that would discourage vandalism and could lead to better preservation of all cultural resources.

In the natural zone, efforts would be made to retain and enhance historic structures that contribute to the national historic landmark designation and national register listing and eligibility. Efforts would be made to stabilize and harden historic structures to provide improved educational and interpretive opportunities for visitors and there would be less tolerance for impacts on cultural resources such as historic structures. Where there is zoning for scenic character and historic parkway, historic structures would be better protected and would be beneficially impacted for the long term as contributing resources to national historic landmark designation, and national register eligibility would be emphasized and protected.

**Rocky Knob**—Under alternative B, adverse impacts on the historic structures in the Rocky Knob recreational area would possibly result from some of the planned conversions, facility upgrades, and additions of new facilities for concessions and campgrounds. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of nonhistoric

elements to historic structures would not impact historic, contributing elements. This would offset the impacts of the facility upgrades reduce potential adverse impacts to the negligible to minor range for the long term. Such impacts would be site-specific.

Zoning at Rocky Knob is primarily focused on recreation. In the recreation zone under alternative B, historic structures would be used to support interpretation and other visitor services, which could be an adverse site-specific short-term impact on such resources due to potential vandalism and wear and tear due to increased use. At the same time, improved interpretation of the turnpike would be a beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site through the marking of the turnpike that would discourage vandalism and could lead to better preservation of all cultural resources. Where there is zoning for scenic character and historic parkway, cultural resources would be better protected and would be beneficially impacted for the long term as historic structures contributing to national historic landmark designation and national register eligibility would be emphasized and protected. There is a special cultural resource zone in Rockcastle Gorge where there are remnants of an abandoned mountain community. Trail improvements in this area would allow for more law enforcement-led programs that would result in an increase in park law enforcement presence, and thus, an increase monitoring and protection of historic buildings in this area. Because this area can tolerate little impact on historic structures, this special cultural resource zone would provide for long-term beneficial impacts on historic structures through added protection.

**Mabry Mill**—The facility upgrades, addition of new facilities for concessions, or the creation of a visitor contact station under alternative B would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size, and massing to the existing structure. Any

materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), any adverse impacts would be of negligible to minor intensity and long-term.

The longer visitor use season in this area would allow for historic structures to be used for interpretation, whether staffed or unstaffed. Increased use could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Zoning in this area includes scenic character, historic parkway, visitor services, and special natural resource. A greater level of protection would be afforded in the scenic character, historic parkway, and special natural resource zoned areas where historic structures contributing to national historic landmark designation and national register eligibility would be protected. In the visitor services zone, historic structures would be used to support interpretation and other visitor services which could be an adverse short-term site-specific impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the turnpike would be a beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site through the marking

of the turnpike that would discourage vandalism and could lead to better preservation of all cultural resources.

**Blue Ridge Music Center**—Under alternative B, there would be no adverse impacts on historic structures from maintaining the current management, facilities, and design. Zoning in the Blue Ridge Music Center area includes a large area devoted to natural zoning where historic structures would be actively protected for the national register eligibility and for the role as contributing elements to the designation of the parkway as a national historic landmark. This is also true of the areas zoned for scenic parkway and historic parkway, as well as special natural zone. Historic structures in these areas would be evaluated and appropriate treatments determined following *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Impacts on historic structures in these areas would be long-term and beneficial.

In the visitor services zone, there could be some site-specific short-term minor adverse impacts on historic structures, as some resources may be adapted or used to accommodate the needs of the visiting public due to potential vandalism and wear and tear.

**Cumberland Knob**—Under alternative B, the restoration of the visitor contact station to its historical appearance would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), any adverse impacts would be of negligible to minor intensity and long-term.

Zoning at Cumberland Knob includes natural, park support and visitor services, scenic

parkway, and historic parkway. Zoning in this area would generally benefit historic structures although there could be some site-specific minor adverse short-term impacts in the areas zoned for visitor services because of impacts from future or increased use due to potential vandalism and wear and tear.

**Doughton Park**—Planned facility upgrades and additions of new campground facilities in the area under alternative B would possibly result in adverse site-specific impacts on historic structures. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of noncontributing elements to the historic structures would be kept to the negligible to minor level and would be a site-specific impact for the long term.

Under this alternative a substantial part of the area is zoned natural. The parkway itself is zoned for historic parkway with scenic character zoning adjacent. There is visitor service zoning in the developed areas, while the Brinegar Cabin and Caudill Cabin are zoned as special cultural resource zones. The Grassy Gap Fire Road is zoned for park support. Zoning in this area would generally benefit historic structures for the long term, although there could be some minor site-specific adverse short-term impacts in the areas zoned for park support or visitor services due to potential vandalism and wear and tear. Few impacts on historic structures would be tolerated in the special cultural resource zones. This zoning would be an added long-term beneficial impact to those resources.

**Julian Price**—Under alternative B, zoning at Julian Price includes a substantial amount of natural zone, a small visitor services area at the campground, and a new picnic area. The area around the lake is zoned for recreation. There are special natural resource zones adjacent to the parkway in several locations and the parkway itself is zoned for historic parkway. Zoning in this area would generally benefit historic structures, although there could be some minor adverse site-specific short-term

impacts in the areas zoned recreation due to potential vandalism or wear and tear.

**Linville Falls**—Planned upgrades and trail improvements, including paving, under alternative B in this area would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. Any modifications to historic structures, if required, would be similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

The longer nine-month visitor use season in this area would allow for historic structures to be used for interpretation, whether staffed or unstaffed. Increased use could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Zoning in the Linville Falls area focuses on recreation and scenic character of the parkway, as well as some natural zoning. A greater level of protection would be afforded in the scenic character and natural zone areas where historic structures contributing to national historic landmark designation and

national register eligibility would be protected. This would be beneficial to historic structures for the long term. In the recreation zone, historic structures would be used to support interpretation and other visitor services which could be a short-term site-specific adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site through the marking of the turnpike that would discourage vandalism and could lead to better preservation of all cultural resources.

*Crabtree Falls*—Under alternative B, the introduction of noncontributing elements to the cultural landscape could result in an adverse impact to historic structures. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of noncontributing elements to the historic structures to be kept to the negligible to minor level and would be a site-specific impact for the long term.

Zoning in the Crabtree Falls area focuses on recreation and scenic character of the parkway. A greater level of protection would be afforded in the scenic character zoned areas where historic structures contributing to national historic landmark designation and national register eligibility would be protected. In the recreation zone, historic structures would be used to support interpretation and other visitor services which could be an adverse short-term site-specific impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

*Mt. Pisgah*—Planned facility upgrades and additions of new facilities campground

facilities in the area under alternative B would possibly result in adverse site-specific, impacts on historic structures. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of noncontributing elements to the historic structures to be kept to the negligible to minor level and would be a site-specific impact for the long term.

This recreation area is zoned primarily as a natural zone and the parkway is designated for historic parkway with some adjacent special natural resource zones. The campground and amphitheater area would be designated historic parkway for added protections to historic structures, resulting in a long-term beneficial impact. There would be added protection from the designation of the Buck Springs Lodge Ruin special cultural resource zone where few impacts on cultural resources would be tolerated.

**Cumulative Effects.** Over the years, historic structures outside the parkway may have been demolished for agriculture and the development and expansion of communities. Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region could result in loss or diminished integrity of historic structures, increased vandalism or other illegal activities, or unsupervised use. Cumulative impacts from these activities have been adverse, moderate, and long-term.

As described above, implementation of alternative B would result in both long-term minor to moderate adverse effects and beneficial effects to historic structures. Both the beneficial and minor to moderate long-term adverse impacts of this alternative, in combination with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate adverse cumulative effect. The adverse effects of

alternative B, however, would be a small component of the adverse effect cumulative impact.

**Conclusion.** Alternative B would have long-term minor to moderate adverse impacts, and long-term negligible to moderate beneficial impacts on the historic structures. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions would result in long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, alternative B's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be a minor to moderate adverse effect for historic structures and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.

**Section 106 Summary.** After applying the advisory council's criteria of adverse effects (36 CFR 800.5 Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative B would include minor to moderate adverse impacts on some historic structures that could result in an adverse effect at some sites. Any beneficial impacts would have no adverse effect for the purposes of section 106. When adverse effects could occur as a result of an action under alternative B, NPS staff would work with the state historic preservation officer and advisory council to avoid or minimize the adverse effect. Any unavoidable adverse effects that would occur under section 106 would be mitigated according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

## Alternative C

**Parkway-wide.** Under alternative C, similar to alternative B, there would be potential impacts on historic parkway structures through the construction of new grade

separation structures when at-grade crossings are replaced. Impacts would be caused by the potential modification of structures or changes in access and use in the vicinity of the construction. The impacts would be site-specific and could be kept in the minor to moderate range through appropriate mitigative measures, such as sensitive redesign in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). The use of areas with existing disturbance and construction within the existing footprint of prior construction would help to minimize any of the above impacts.

Sensitive design would ensure that improvements to walkways, trails, and parking areas adjacent to historic structures or for making walkways, trails, and parking structures universally accessible, would minimally affect the scale and visual relationships among the structure and site features. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the existing association between the structure and the surrounding landscape. Any adverse impacts would be long-term and minor intensity.

Under alternative C, although concession services determined to be no longer economically feasible would be eliminated and the structures housing those services would either be adaptively used or removed, these actions would not include facilities that national register-listed or -eligible for listing because they would be exempted from removal under this action. Therefore, the impact of planned concession removal to historic structures would be site-specific, negligible to minor, and short-term because these activities likely would not be noticeable to historic structures.

Creating new parkway land use maps that allow for a deviation from the historic character when necessary to capture regional landscape character and provide for recreational uses could be a site-specific long-term adverse impact on the historic designed

parkway. The intensity of the impact would range from negligible to moderate depending on the degree of deviation from the original design. However, such deviation would be in keeping with the original intent of the parkway and, as such, could be a beneficial impact.

The closure of some pull-offs where views have been substantially compromised could be a site-specific long-term minor to moderate adverse impact on historic parkway structures as consequences would be local. The replacement of pull-offs in another location where the views are open and could be protected would be beneficial to the original intent but could be an adverse impact on the parkway as a national historic landmark as it would introduce a noncontributing element to the setting of historic structures.

As under alternative B, historic structures used for interpretation, whether staffed or unstaffed, could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Under alternative C, there would be long-term beneficial impacts on historic structures from the land protection program with the added benefit of regional partnerships to enhance the protection of cultural resources, including historic structures. Implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's historic structures and engage parkway

stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. The acquisition of conservation easements and land from willing sellers would also protect historic structures from inappropriate alteration or demolition. Impacts would be long-term and beneficial.

The modification of some landscape areas could cause adverse impacts on cultural resources, such the historic structures' historic setting and the existing association between the structure and the surrounding landscape. Such adverse impacts would be indirect to historic structures and would, therefore, be negligible to minor, adverse, and short-term.

A long-term regional ecosystem health approach would be a beneficial impact to historic structures because impacts on cultural resources would be realized and anticipated in a larger context providing for better understanding of impacts on their continued management and preservation.

Under alternative C, possible conversion of some human-made water features to natural habitat could adversely impact nearby historic structures for the long term if they are considered national register eligible or listed due to potential modifications to the historic setting and the existing association between the structure and the surrounding landscape. Adverse impacts on historic structures could be site-specific, minor intensity, and long-term.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide sections are described below.

*Segments 1 and 2: Ridge and Roanoke—* Sensitive design would ensure that new multiuse trails and some pullouts adjacent to historic structures under alternative C would minimally affect the scale and visual relationships among the structure and site features. The topography and land use and native vegetation patterns of such sites would



also remain largely unaltered, leaving unaffected the existing association between the structure and the surrounding landscape. Any adverse impacts would be long-term and minor in intensity.

**Segment 3: Plateau**—Changes in use for the Kelley School under alternative C could pose some minor adverse impacts on historic structures if major alterations were required to create a visitor use and education attraction. Modification of the Kelley School would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be similar in scale, size, and massing to the existing structure. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

**Segments 4 and 6: Highlands and Asheville**—Continued partnering with local stakeholders under alternative C would benefit all cultural resources through directing use away from fragile historic sites. The creation of new multiuse trails in the Highlands segment could possibly pose a potential negligible to minor site-specific, adverse, short-term impact on historic structures during the duration of construction activities, which could temporarily impact the historic setting of nearby historic structures.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

**Humpback Rocks**—The increased capacity of the visitor contact station under alternative C would improve interpretation of the turnpike would be a long-term beneficial impact to historic structures in this area because visitors would obtain new understanding of the parkway's historic structures, which could

lead to better preservation of all cultural resources.

The longer visitor use season in this area would allow for historic structures to be used for interpretation, whether staffed or unstaffed. Increased use could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Zoning at Humpback Rocks under alternative C emphasizes the natural zone with some recreation zoning to accommodate multiuse trail development. In the natural zone, historic structures that contribute to the national historic landmark designation and national register listing and eligibility would be retained and enhanced by stabilizing or hardening historic structures to provide improved educational and interpretive opportunities for visitors. Impacts would be beneficial and long-term.

**James River/Otter Creek**—Planned adaptive reuse, facility upgrades, and additions of new facilities in the James River and Otter Creek recreation area under alternative B in this area would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. Any modifications to historic structures, if required, would be similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the

rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

Zoning at James River and Otter Creek under alternative C emphasizes the natural zone. In the natural zone, historic structures that contribute to the national historic landmark designation and national register listing and eligibility would be retained and enhanced by stabilizing or hardening historic structures to provide improved educational and interpretive opportunities for visitors. Impacts would be beneficial and long-term.

The special cultural resource zone at Canal Lock would provide for beneficial impacts on cultural resources through added protection. An area adjacent to the parkway south of the canal is zoned for scenic character while the parkway itself is zoned history parkway. Areas adjacent to the Otter Creek Restaurant and Campground are zoned park support. As with alternative B where there it is zoned natural, scenic character, or historic parkway, cultural resources would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone cultural resources would also be protected, providing for a long-term beneficial impact.

**Peaks of Otter**—Site-specific adverse impacts on the historic structures in the Peaks of Otter area under alternative C could result from some of the potential new facilities and upgrades for concessions and campgrounds. If additions are provided in keeping with any eligible cultural landscape, impacts could be mitigated to be kept to the negligible to minor level and would be long-term. The stabilization of the Saunders Farm structures and rehabilitation of the Johnson Farm landscape would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. New additions to historic structures would be

similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*, any adverse impacts would be of negligible to minor intensity and long-term.

The 12-month visitor use season in this area would allow for historic structures to be used for interpretation, whether staffed or unstaffed. Increased use could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Zoning at Peaks of Otter under alternative C emphasizes the natural zone in which management efforts would retain and enhance historic structures that contribute to the parkway's national historic landmark designation and national register eligibility by stabilizing or hardening historic structures to provide improved educational and interpretive opportunities for visitors. The special cultural resource zones at Saunders Farm and Johnson Farm would tolerate very little cultural resource impacts and would provide for long-term beneficial impacts on cultural resources through added protection.

**Roanoke Mountain**—Zoning at Roanoke Mountain is primarily focused on recreation.

In the recreation zone, cultural resources would be used to support interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources. Where there is zoning for scenic character and historic parkway, historic structures would be better protected and would be beneficially impacted as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized and protected.

**Smart View**—In the natural zone surrounding the picnic area in the Smart View recreation area, under alternative C efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility and fewer impacts on cultural resources would be tolerated. Historic structures could be hardened or stabilized in these areas to provide improved educational and interpretive opportunities for visitors. Impacts would be beneficial and long-term. In this recreation area, the parkway is zoned historic parkway and is surrounded on either side with scenic character zoning. Where there is zoning for scenic character and historic parkway, historic structures would be better protected and would be beneficially impacted as resources contributing to national historic landmark designation and national register eligibility would be emphasized and protected.

**Rocky Knob**—Under alternative C, comfort station, campground upgrades, and RV access would be improved. Adverse impacts on the historic buildings in the area would possibly result from some of the planned conversions, facility upgrades, and additions of new facilities associated with these activities. Sensitive design in accordance with *The*

*Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of noncontributing elements to the historic structures to be kept to the negligible to minor level, and would be a site-specific impact for the long term.

Zoning at Rocky Knob under alternative C emphasizes the natural zone. Visitor services zones are situated at the campground, trailhead shelter, and Rocky Knob Cabins. Some park support zoning is present for the maintenance area and district offices near the campground and the fire road in the gorge is also designated as such. Areas adjacent to the parkway leading into and exiting the recreation area are zoned for scenic character while the parkway itself is zoned history parkway. In the natural zone, efforts would be made to retain and enhance cultural resources, including historic structures that contribute to the parkway's national historic landmark designation and national register listing and eligibility. Historic structures could be hardened or stabilized in these areas to provide improved educational and interpretive opportunities for visitors. Impacts would be beneficial and long-term.

As with alternative B, the special cultural resource zone in the Rockcastle Gorge would tolerate very little cultural resource impact so would provide for beneficial impacts on historic structures through added protection. As with alternative B, where there it is zoned natural, scenic character, and historic parkway, historic structures would be well protected and would primarily be beneficially impacted for the long term as historic structures contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support and visitor services zones, historic structures would also be protected, providing for a long-term beneficial impact.

**Mabry Mill**—The Mabry Mill area under alternative C is zoned very similarly to alternative B. Zoning in this area includes scenic character, historic parkway, visitor services, and special natural resource. A

greater level of protection would be afforded in the scenic character, historic parkway, and special natural resource zoned areas where cultural resources contributing to national historic landmark designation and national register eligibility would be protected. In the visitor services zone, cultural resources, including historic structures, would be used to support interpretation and other visitor services, which could be an adverse site-specific short-term impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

**Blue Ridge Music Center**—Under alternative C, there would be no adverse impacts on historic structures from maintaining the current management, facilities, and design.

Zoning in the Blue Ridge Music Center area includes a large area devoted to natural zoning where cultural resources, such as historic structures, would be actively protected for the national register eligibility and for the role as contributing elements to the designation of the parkway as a national historic landmark. This is also true of the areas zoned for scenic parkway and historic parkway, as well as special natural zone. Impacts to historic structures in these areas would be beneficial and long-term due to the added protection.

**Cumberland Knob**—Sensitive design would ensure that additional trails and picnic areas adjacent to historic structures would minimally affect the scale and visual relationships among historic structures and site features. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the existing association between the structure and the surrounding landscape. Any adverse impacts would be long-term and minor in intensity.

Zoning at Cumberland Knob includes natural, recreation, scenic parkway, and historic parkway. Zoning in this area would benefit cultural resources, including historic structures, although there could be some adverse impacts in the areas zoned recreation. In the recreation zone, cultural resources would be used to support interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact to historic structures due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

**Doughton Park**—Planned facility upgrades, and additions of new facilities campground facilities in the area under alternative C would possibly result in site-specific adverse impacts on historic structures. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of noncontributing elements to the historic structures to be kept to the negligible to minor level, and would be a site-specific impact for the long term.

Under alternative C, a substantial part of the area is zoned natural. The parkway itself is zoned for historic parkway with scenic character zoning adjacent. There is visitor service zoning in the developed areas, while the Brinegar Cabin and Caudill Cabin are zoned as special cultural resource zones. The Grassy Gap Fire Road is zoned for park support. Zoning in this area would generally benefit historic structures, although there could be some site-specific minor short-term adverse impacts in the areas zoned for park support or visitor services if historic structures are used to support interpretation and other visitor services. This could be a minor to moderate, site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway

would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

Where there is historic parkway, scenic character, and natural zoning, parkway historic structures would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark. Few impacts on historic structures would be tolerated in the special cultural resource zones. Added protection would be an added long-term beneficial impact to those historic structures in these zones.

*Julian Price*—Under alternative C, zoning at Julian Price is primarily focused on recreation and natural zoning. There is some historic parkway zone in the area around Price Lake and some special natural resource zoning interspersed with the natural zone. Zoning in this area would generally benefit cultural resources, including historic structures, although there could be some site-specific minor short-term adverse impacts in the areas zoned recreation. In the recreation zone, historic structures would be used to support interpretation and other visitor services, which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources. Where there is historic parkway, natural and special natural zoning, parkway historic structures would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Linville Falls*—Planned upgrades, trail improvements, improved RV access, and possible redesign of the picnic area and conversion of the visitor contact station to a trailhead shelter would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any modifications to historic structures, if required, would be similar in scale, size, and massing to the existing structure. Any materials removed during rehabilitation efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the rehabilitation of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), any adverse impacts would be of negligible to minor intensity and long-term.

The longer 12-month visitor use season in this area would allow for historic structures to be used for interpretation, whether staffed or unstaffed. Increased use could cause wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the historic structures from visitation would be long-term and of negligible to minor intensity.

Zoning at Linville Falls includes more natural zoning. The spur road to the visitor contact station and the campground would be zoned differently from alternative B and would be visitor service designated. The parkway itself is zoned for historic parkway with scenic character designated to either side. Park support zones exist at the maintenance

facility. Impacts from this zoning would generally benefit cultural resources, including historic structures, for the long term through added protection of these resources.

**Crabtree Falls**—Zoning at Crabtree Falls Recreation Area under alternative C is natural. The picnic area, campground, and gift shop are all zoned for visitor services. The parkway is zoned historic parkway with scenic character designated to either side. Historic structures would be beneficially impacted for the long term from the natural zone designation through added protection and low-level visitor use within this zone. Historic structures would be evaluated for national register eligibility and would be better preserved in the natural, scenic character, and historic parkway zones.

**Mt. Pisgah**—Under alternative C, this recreation area is zoned primarily as a natural zone and the parkway is designated for historic parkway with some adjacent special natural resource zones. The campground and amphitheater area would be designated visitor services zone, which would tolerate greater impacts when compared to alternative B. These impacts would likely be site-specific, short-term, adverse, and minor due to potential vandalism and wear and tear from increased use.

Historic structures would be evaluated and managed to maintain their eligibility for the national register and for their role in the designation of the parkway as a national historic landmark and resources protected. Historic structure treatments in this area would be in keeping with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). There would be added protection from the designation of the Buck Springs Lodge Ruin special cultural resource zone where few impacts on cultural resources would be tolerated, resulting in a long-term beneficial impact to historic structures.

**Cumulative Impacts.** Over the years, historic structures outside the parkway may have been demolished for agriculture and the

development and expansion of communities. Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region could result in loss or diminished integrity of historic structures, increased vandalism or other illegal activities, or unsupervised use. Cumulative impacts from these activities have been adverse, moderate, and long-term.

As described above, implementation of alternative C would result in both long-term minor to moderate adverse effects and beneficial effects to historic structures. Both the beneficial and minor to moderate long-term adverse impacts of this alternative, in combination with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate adverse cumulative effect. The adverse effects of alternative C, however, would be a small component of the adverse effect cumulative impact.

**Conclusion.** Alternative C would have long-term site-specific minor to moderate adverse impacts and long-term beneficial impacts on historic structures. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse cumulative impacts, and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.

**Section 106 Summary.** After applying the advisory council's criteria of adverse effects (36 CFR 800.5 Assessment of Adverse Effects)

the National Park Service concludes that implementation of this alternative would include site-specific minor to moderate adverse impacts on some historic structures that could result in an adverse effect at some sites. Any beneficial impacts would have no adverse effect for the purposes of section 106. National Park Service staff would work with the state historic preservation officer and advisory council to prevent an adverse effect. Any adverse effects under section 106 would be mitigated according to the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (1995).

## CULTURAL LANDSCAPES

### Methods and Assumptions for Analyzing Impacts

Impacts on cultural landscapes were evaluated by comparing projected changes resulting from the action alternatives (B and C) to those of the no-action alternative (A). The thresholds used to determine impacts on these resources are defined as follows.

**Negligible:** Impacts would be at the lowest levels of detection—barely perceptible and measurable. For purposes of section 106, the determination of effect would be no adverse effect.

**Minor:** Impacts would affect character-defining features but would not diminish the overall integrity of cultural landscapes. For purposes of section 106, the determination of effect would be no adverse effect.

**Moderate:** Impacts would alter a character-defining feature(s) of a cultural landscape and result in measurable changes that could diminish the overall integrity of the resource to the extent that its national register eligibility could be jeopardized. For purposes of section 106, the determination of effect would be adverse effect.

**Major:** Impacts would alter character-defining features of a cultural landscape, diminishing the overall integrity of the

resource to the extent that it would no longer be eligible to be listed on the national register. For purposes of section 106, the determination of effect would be adverse effect.

**Cumulative Impacts.** The Council on Environmental Quality regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives, including the no-action alternative.

Cumulative impacts were determined by combining the impacts of the alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Blue Ridge Parkway and, if applicable, the surrounding region.

### Parkway-wide Actions Common to All Alternatives

For all alternatives, parkway-wide cultural landscapes that are in keeping with the parkway's original design intent would be given priority for preservation as contributing elements to the parkway as a national register-eligible national historic landmark. This prioritization would be a long-term beneficial impact on cultural landscapes. Moreover, designation of the parkway as a listed national historic landmark would have a beneficial impact on all parkway cultural resources, including cultural landscapes. Continued priority for historic preservation would benefit cultural landscapes through national register listing and appropriate preservation activities. Historic views and vistas associated

with cultural landscapes would be inventoried as the basis of informed decision making in the future regarding how the views and vistas should be preserved. Impacts would be long-term and beneficial.

The surveys and research necessary to determine the eligibility of a cultural landscape for listing in the national register, or for designating the Blue Ridge Parkway as a national historic landmark, are a prerequisite for understanding the resource's significance, as well as the basis of informed decision making in the future regarding how such resources should be managed. Such surveys and research, as well as nominations to the national register or designation as a national historic landmark, would be a long-term beneficial impact to cultural landscapes.

Although the emphasis is on off-parkway views in the no-action alternative, the completion of the baseline evaluation of off-parkway scenic views would be a long-term beneficial impact to cultural landscapes as knowing condition and quality of historic scenic views would provide for informed decision making when working to preserve cultural landscapes along and within the parkway.

### **Alternative A—No-action**

**Parkway-wide.** Under alternative A, some of the planned campground upgrades at the nine parkway campgrounds, such as providing showers and RV water and electrical hookups, could result in adverse impacts on cultural landscapes. However, because upgrades would be accomplished within the existing design and configuration of the campgrounds, adverse impacts would be short-term and long-term, site-specific, and negligible to minor, because they would not alter the features and patterns of the cultural landscapes; therefore, they would likely not be noticeable. Maintenance of the other existing infrastructure and facilities would be a beneficial long-term impact on cultural landscapes because the infrastructure would be maintained in good condition without

disturbance or changes to the cultural landscape features, such as spatial organization, land use patterns, circulation systems, topography, vegetation, structures, cluster arrangements, small-scale features, or views and vistas.

The parkway's existing land protection program under alternative A would result in long-term beneficial impacts on cultural resources. Acquisition of conservation easements and land from willing sellers would benefit cultural landscapes for the long term through added protection.

The continued management of cultural landscape features and patterns, such as designed landscape features, roadsides, and vistas, as well as agricultural leases for primarily scenic and recreational purposes would be a beneficial impact on cultural landscapes because there would be no anticipated disturbance to these resources and would protect cultural landscapes from inappropriate alteration or demolition.

Under alternative A, cultural landscapes would benefit from existing partnership management strategies that would continue to grow and develop. Continued implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's cultural landscapes and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. Beneficial impacts would result from engaging the public and partners in active preservation programs that include cultural landscapes. Therefore, overall, partnering would have a long-term beneficial impact.

Working reactively with parkway stakeholders, neighbors, and local governments using the current scenery conservation management strategies under alternative A would emphasize the significance and potential fragility of the parkway's historic structures and engage



parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. The impacts would be long-term and beneficial.

Generally, cultural landscapes would benefit for the long term from maintenance of current use of the parkway trails and management relative to trails because there would be no new disturbance and no introduction of noncontributing elements to national register-listed or -eligible cultural landscapes.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 3: Plateau*—Continued NPS management of the historic Kelley School and farms near milepost 149 would benefit the historic setting and cultural landscape by allowing for continued monitoring of the historic site and landscape. The presence of law enforcement staff could curtail inadvertent impacts and discourage vandalism, minimizing such adverse impacts to the site. Adverse impacts to the cultural landscape at the Kelley School from the daily wear-and-tear of continued use would be long-term and of negligible to minor intensity.

*Segments 4 and 6: Highlands and Asheville*—Continued partnering with local stakeholders would benefit all cultural landscapes by directing use away from fragile historic sites. Beneficial impacts would result from engaging the public and partners in active preservation programs that include cultural landscapes. Therefore, overall, partnering would have a long-term beneficial impact.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*James River/Otter Creek*—Upgrading certain comfort stations in the no-action alternative

could possibly result in an adverse impact on cultural landscapes if a noncontributing element that is introduced to cultural landscapes diminishes the patterns or features that make it eligible for the national register. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that such upgrades would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and of minor intensity.

*Peaks of Otter, Roanoke Mountain, Julian Price Memorial Park, Linville Falls, Crabtree Falls, Craggy Gardens, Mt. Pisgah*—Adverse impacts on cultural landscapes in these areas could result from the adaptive reuse of concession facilities and campground comfort station upgrades such as adding showers and RV water and electrical hookups, which would require expanded sewage treatment facilities and electrical lines. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that such upgrades would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and of minor intensity.

*Mabry Mill and Doughton Park*—Under the no-action alternative, adverse impacts on cultural landscapes in the area could result from possible adaptive reuse of concession facilities if these activities diminish the cultural landscape's patterns or features. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that this adaptive reuse would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of

such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and of minor intensity.

**Doughton Park**—The Doughton Park recreation area contains the Brinegar Cabin, which is listed in the national register. Continued deterioration of the landscape and setting surrounding the site would be a long-term moderate adverse impact on the cultural landscape that could jeopardize its eligibility as a cultural landscape. Such actions would result in an adverse impact that would be site-specific, moderate, and long-term.

**Cumulative Effects.** Over the years, cultural landscapes outside the parkway may have been demolished for agriculture and the development and expansion of communities. Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region could result in loss or diminished integrity of the cultural landscapes surrounding the parkway, increased vandalism or other illegal activities, or unsupervised use. Cumulative impacts from these activities have been adverse, moderate, and long-term.

As described above, implementation of the no-action alternative would result in both long-term minor to moderate adverse effects and beneficial effects to cultural landscapes. Both the beneficial and minor to moderate long-term adverse impacts of this alternative, in combination with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate adverse cumulative effect. The adverse effects of the no-action alternative, however, would be a small component of the adverse effect cumulative impact.

**Conclusion.** Alternative A would have site-specific, short- and long-term minor to moderate adverse impacts, and long-term

negligible to moderate beneficial impacts on the cultural landscapes. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate adverse cumulative impacts, and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.

### Alternative B (NPS Preferred)

**Parkway-wide.** Under alternative B, there would be potential impacts on cultural landscapes through the construction of new grade separation structures when at-grade crossings are replaced. Impacts would be caused by the potential modification of landscape features or changes in access and use in the vicinity of the construction. The impacts from the possible modification of landscape features or patterns could be kept in the minor to moderate range through appropriate mitigative measures and would be in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. The use of areas with existing disturbance and construction within the existing footprint of prior construction would help to minimize impacts on cultural landscapes. Before all construction site-specific surveys would be conducted and cultural resources would be avoided to the greatest extent possible. Adverse impacts would be site-specific, primarily minor and short-term, although some moderate adverse impacts could occur.

As with alternative A, some of the planned campground upgrades, such as adding showers and RV water and electrical hookups, at the nine parkway campgrounds, other facility upgrades, adaptations for universal

accessibility, and additions of new facilities for concessions could result in adverse impacts on cultural landscapes. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that such upgrades would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Updates to the historic Parkway Land Use Maps under alternative B would provide for a long-term beneficial impact because it would guide current park managers to making appropriate decisions for preserving parkway cultural landscapes. The inability of the parkway to strictly adhere to the Parkway Land Use Maps to accommodate new laws and policy requirements and operational constraints, an adverse impact on the designed cultural landscape could occur. This impact would be site-specific, adverse, minor to moderate, and likely long-term.

Under alternative B, an active and engaged interpretation and visitor services management program along the parkway would benefit cultural landscapes because continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of cultural landscapes and how visitors can reduce their impacts to such resources would curtail inadvertent impacts such as vandalism or wear and tear, thus minimizing adverse impacts. In addition, monitoring the carrying capacity of cultural landscapes could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to cultural landscapes from visitation would be long-term and of negligible to minor intensity.

Similar to alternative A, alternative B would also have long-term beneficial impacts on cultural resources from the land protection

program that includes acquisition of conservation easements and land from willing sellers, which would protect cultural landscapes from inappropriate alteration or demolition. Alternative B's beneficial impact would be farther reaching to include enhanced beneficial impacts on the preservation of cultural landscapes through acquisition and the targeting of specific cultural resources to be acquired. The establishment of criteria for acquisition would further enhance preservation and protection of all cultural resources, including cultural landscapes, for a long-term beneficial impact on cultural landscapes.

Partnerships would be enhanced for even greater beneficial impact on cultural landscapes for the long term. Continued implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's cultural landscapes and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. Impacts would be long-term and beneficial.

Generally, cultural landscapes would benefit for the long term from maintenance of current use of the parkway trails and management relative to trails because there would be no new disturbance and no introduction of noncontributing elements that could otherwise diminish the integrity of cultural landscapes through trampling or wear and tear from new trail use.

Under alternative B, working more actively with parkway stakeholders, neighbors, and local governments using the current Scenery Conservation Management Strategies would emphasize the significance and potential fragility of the parkway's cultural landscapes and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. The acquisition of conservation easements and land from willing sellers would also protect cultural landscapes

from inappropriate alteration or demolition. These impacts would be long-term and beneficial.

Under alternative B, the construction of new walking paths could cause some minor site-specific adverse long-term impacts on cultural landscapes because of the introduction of noncontributing elements to the cultural landscapes, such as new circulation systems or land use patterns. The design of new trails would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Any modifications would consider the cultural landscape qualities and features and implement appropriate placement of the trails and vegetative screening. Modern additions to cultural landscapes would be of compatible design using like materials, form, colors, and patterns and would not be intrusive on the landscape. Because trail construction would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, any adverse impacts would be of negligible to minor intensity and long-term.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide sections are described below.

**Segment 1: Ridge**—Improvements to the north entrance and providing additional visitor contacts would likely be a long-term beneficial impact to cultural landscapes because visitors would enter with additional historical interpretation and orientation, which would be an indirect long-term benefit to all cultural resources. Improved interpretation of the parkway's cultural landscapes would allow visitors to obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

**Segment 3: Plateau**—NPS management of the Kelley School would allow for continued

monitoring of the resources. The presence of law enforcement staff could curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. Adverse impacts to the cultural landscape from the daily wear-and-tear of continued use would be long-term and of negligible to minor intensity.

**Segment 4: Highlands**—Working with partners to protect cultural resources would benefit cultural landscapes in the segment.

**Segment 6: Asheville**—Development of additional parking and trails under alternative B would possibly result in site-specific short-term minor adverse impacts on cultural landscapes if noncontributing elements are introduced to the cultural landscape. Impacts would be kept in the minor range through appropriate mitigative measures whereby topography, land use, and native vegetation patterns of such sites would remain largely unaltered, leaving unaffected the cultural landscape.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

**Humpback Rocks**—Drawing attention to the historic Howardsville Turnpike route under alternative B would cause a potential minor site-specific adverse impact through increased attention on this cultural resource. Increased use could lead to trampling, vandalism, and integrity loss of previously undocumented cultural landscapes and additional deterioration to the turnpike itself. The improved interpretation of the turnpike could be a long-term beneficial impact as visitors would obtain new understanding of the site through the marking of the turnpike and would discourage vandalism. That could in turn lead to better preservation of the cultural landscape.

Zoning at Humpback Rocks under alternative B is primarily focused on recreation and natural zoning. In the recreation zone, cultural

landscapes would be used to support interpretation and other visitor services which could include an adverse short-term site-specific impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources. Where there is zoning for natural, scenic character, and historic parkway, cultural landscapes would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized.

*James River/Otter Creek and Peaks of Otter*—Adverse impacts on cultural landscapes in the area could result from some of the potential new facilities or upgrades under alternative B. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that this adaptive reuse would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Maintaining Otter Lake would be a long-term beneficial impact on the cultural landscape as it would preserve a part of the designed historic cultural landscape, of which Otter Lake is a contributing feature in this area.

Zoning at James River/Otter Creek and the Peaks of Otter is primarily focused on recreation. In the recreation zone, cultural resources, such as cultural landscapes, would be used to support interpretation and other visitor services, which could be an adverse site-specific short-term minor impact on such resources. In the recreation zone, cultural landscapes would be used to support

interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

*Peaks of Otter*—Zoning at Peaks of Otter under alternative B is primarily focused on recreation. Where there is zoning for natural, scenic character, historic parkway cultural landscapes would be better protected and would be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. The special cultural resource zones at Saunders Farm and Johnson Farm would provide for beneficial impacts on cultural landscapes through the added protection of significant cultural landscape features in this zone.

*Roanoke Mountain and Smart View*—Under alternative B, the conversion of the campground to a picnic area in the Roanoke recreation area could be a minor site-specific long-term adverse impact on the cultural landscape of the historic parkway from altering the use and appearance of the historic setting. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that this adaptive reuse would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Although zoning at Roanoke Mountain and Smart View is focused on recreation under alternative B, there is an added natural zone surrounding the Roanoke Mountain Loop. In the recreation zone, cultural landscapes would

be used to support interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

In the natural zone, efforts would be made to retain and enhance cultural landscapes that contribute to the national historic landmark designation and national register listing and eligibility and there would be less tolerance for impacts on cultural landscapes. Where there is zoning for scenic character and historic parkway, cultural landscapes would be better protected and would primarily be beneficially impacted as contributing resources to national historic landmark designation and national register eligibility would be emphasized.

**Rocky Knob**—Under alternative B, adverse impacts on cultural landscapes in the Rocky Knob recreational area would possibly result from some of the planned conversions, facility upgrades, and additions of new facilities for concessions and campgrounds. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the introduction of nonhistoric features would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Zoning at Rocky Knob is primarily focused on recreation. In the recreation zone, cultural landscapes would be used to support interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear.

At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

Where there is zoning for scenic character and historic parkway cultural resources would be better protected and would primarily be beneficially impacted as cultural landscapes contributing to national historic landmark designation and national register eligibility would be emphasized. There is a special cultural resource zone in Rockcastle Gorge where there are remnants of an abandoned mountain community. Trail improvements in this area would allow for more law enforcement-led programs that would result in an increase in park law enforcement presence, and thus, an increase in monitoring and protection of historic landscape features in this area. Because this area can tolerate only little impact on cultural landscapes, this special cultural resource zone would provide for beneficial impacts on cultural landscapes through added protection of significant cultural landscape features.

**Mabry Mill**—As with alternative A, under alternative B, adverse impacts on cultural landscapes would possibly result from facility upgrades, addition of new facilities for concessions, or the creation of a visitor contact station. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that this adaptive reuse would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

The relocation of the state road crossing could produce adverse impacts on the cultural landscape because this would be a substantial change in circulation in how visitors access the site. Sensitive design in accordance with

*The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that the crossing would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Zoning in this area includes scenic character, historic parkway, visitor services, and special natural resource. A greater level of protection would be afforded in the scenic character, historic parkway, and special natural resource zoned areas where cultural resources contributing to national historic landmark designation and national register eligibility would be protected. In the visitor services zone, cultural landscapes would be used to support interpretation and other visitor services which could be an adverse short-term site-specific minor impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

**Blue Ridge Music Center**—Zoning in the Blue Ridge Music Center area includes a large area devoted to natural zoning where cultural resources, such as cultural landscapes, would be actively protected for the national register eligibility and for the role as contributing elements to the designation of the parkway as a national historic landmark. This is also true of the areas zoned for scenic parkway and historic parkway, as well as special natural zone. In the visitor services zone, there could be some short-term site-specific minor adverse impacts on cultural landscapes, as some resources may be adapted or used to accommodate the needs of the visiting public.

The cultural landscape in these areas would be evaluated and appropriate treatments determined following *The Secretary of the*

*Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to ensure that adverse impacts would be kept in the minor range.

**Cumberland Knob**—Under alternative B, the restoration of the visitor contact station to its historical appearance would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Any materials removed during restoration efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the restoration of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, any adverse impacts would be of negligible to minor intensity and long-term. Increased visitor services could suffer wear and tear from visitation and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of cultural landscapes and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the landscape could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to the cultural landscapes from visitation would be long-term and of negligible to minor intensity.

Zoning at Cumberland Knob includes natural, park support and visitor services, scenic parkway, and historic parkway. Zoning in this area would generally benefit cultural resources although there could be some minor site-specific adverse short-term impacts in the areas zoned for visitor services because of impacts from future or increased use. Where there is historic parkway, scenic parkway, and

natural zoning parkway cultural landscapes would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Doughton Park*—Improved management of the fields at Brinegar Cabin under alternative B would provide for a long-term beneficial impact on cultural landscape by replicating the historic landscape’s patterns and features.

Planned facility upgrades and additions of new facilities campground facilities in the area under alternative B would possibly result in adverse impacts on cultural landscapes through ground disturbance and altering significance features of the cultural landscape. A change in landscape management in the vicinity of the wetlands could also produce moderate short-term adverse impacts on the historic designed landscape. Sensitive design in accordance with *The Secretary of the Interior’s Standards for the Treatment of Historic Properties (1995)* would ensure that new facilities would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Under this alternative a substantial part of the area is zoned natural. The parkway itself is zoned for historic parkway with scenic character zoning adjacent. There is visitor service zoning in the developed areas, while the Brinegar Cabin and Caudill Cabin are zoned as special cultural resource zones. The Grassy Gap Fire Road is zoned for park support. Zoning in this area would generally benefit cultural landscapes, although there could be some minor adverse site-specific short-term impacts in the areas zoned for park support or visitor services due to potential vandalism and wear and tear to significant landscape features. Where there is historic parkway, scenic character, and natural zoning, parkway cultural landscapes would benefit from evaluation and protection for their

possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark. Few impacts on cultural landscapes would be tolerated in the special cultural resource zones, so this would be an added long-term benefit that would further protect cultural landscapes in this area.

*Julian Price*—Under alternative B, zoning at Julian Price includes a substantial amount of natural zone, a small visitor services area at the campground, and a new picnic area. The area around the lake is zoned for recreation. There are special natural resource zones adjacent to the parkway in several locations and the parkway itself is zoned for historic parkway. Zoning in this area would generally benefit cultural landscapes, although there could be some minor site-specific adverse short-term impacts in the areas zoned recreation. In the recreation zone, cultural landscapes would be used to support interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

Where there is historic parkway, natural, and special natural zoning, parkway cultural landscapes would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Linville Falls*—Adverse impacts on cultural landscapes in the Linville Falls area would possibly result from some of the planned upgrades and trail improvements, including paving. Some impacts could be mitigated for the long term through appropriate screening and use of vegetation and appropriate redesign. Sensitive design in accordance with *The Secretary of the Interior’s Standards for the*



*Treatment of Historic Properties (1995)* would ensure that upgrades and improvements would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Zoning in the Linville Falls area focuses on recreation and scenic character of the parkway, as well as some natural zoning. A greater level of protection would be afforded in the scenic character and natural zoned areas where cultural landscapes contributing to national historic landmark designation and national register eligibility would be protected. This would be beneficial to cultural landscapes. In the recreation zone, cultural resources, including cultural landscapes, would be used to support interpretation and other visitor services, which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

**Crabtree Falls**—Under alternative B, adverse impacts on cultural landscapes in the area would possibly result from some of the potential upgrades and additions of new facilities at the campground and in relation to concession operations. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that upgrades and new facilities would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Zoning in the Crabtree Falls area focuses on recreation and scenic character of the parkway. A greater level of protection would be afforded in the scenic character zoned areas where cultural landscapes contributing to national historic landmark designation and national register eligibility would be protected. In the recreation zone, cultural landscapes would be used to support interpretation and other visitor services, which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

**Craggy Gardens**—Under alternative B, improved management of the fields at Brinegar Cabin would provide for a long-term beneficial impact on cultural landscape by replicating the significant features of the historic setting.

Adverse impacts on campground facilities and cultural landscapes would possibly result from some of the planned facility upgrades and additions of new facilities. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that upgrades and new facilities would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Under alternative B, a substantial part of the area is zoned natural. The parkway itself is zoned for historic parkway with scenic character zoning adjacent. There is visitor service zoning in the developed areas, while the Brinegar Cabin and Caudill Cabin are zoned as special cultural resource zones. The

Grassy Gap Fire Road is zoned for park support. Zoning in this area would generally cultural landscapes, although there could be some site-specific minor adverse short-term impacts in the areas zoned for park support or visitor services. Where there is historic parkway, scenic character, and natural zoning, parkway cultural landscapes would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark. Few impacts on cultural landscape features would be tolerated in the special cultural resource zones, which would be an added long-term benefit to cultural landscapes in this area.

*Mt. Pisgah*—Under alternative B, adverse impacts on cultural landscapes in the area could result from some of the planned upgrades at the campground and concessions operation, which could alter significant topographical features, vegetation, or small-scale features in these areas. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that upgrades would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Restoration of the Buck Spring Lodge cultural landscape would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the treatment of Cultural Landscapes*. Any materials removed during restoration efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the restoration of the cultural landscape would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural*

*Landscapes*, any adverse impacts would be of negligible to minor intensity and long-term.

This recreation area is zoned primarily as a natural zone and the parkway is designated for historic parkway with some adjacent special natural resource zones. The campground and amphitheater area would be designated historic parkway for added protections to the significant cultural landscape features there. The cultural landscape would be evaluated and managed to maintain their eligibility for the national register and for their role in the designation of the parkway as a national historic landmark. Cultural landscape treatments would be in keeping with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. There would be added protection from the designation of the Buck Springs Lodge Ruin special cultural resource zone where few impacts on cultural resources would be tolerated.

**Cumulative Effects.** Over the years, cultural landscapes outside the parkway may have been demolished for agriculture and the development and expansion of communities. Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region could result in loss or diminished integrity of the cultural landscapes surrounding the parkway, increased vandalism or other illegal activities, or unsupervised use. Cumulative impacts from these activities have been adverse, moderate, and long-term.

As described above, implementation of alternative B would result in both long-term minor to moderate adverse effects and beneficial effects to cultural landscapes. Both the beneficial and minor to moderate long-term adverse impacts of this alternative, in combination with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate adverse

cumulative effect. The adverse effects of alternative B, however, would be a small component of the adverse effect cumulative impact.

**Conclusion.** Alternative B would have short- and long-term minor to moderate adverse impacts, and long-term beneficial impacts on the cultural landscapes along the parkway. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in site-specific short- and long-term minor to moderate adverse cumulative impacts and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.

**Section 106 Summary.** After applying the advisory council on Historic Preservation's criteria of adverse effects (36 CFR 800.5 Assessment of Adverse Effects) the National Park Service concludes that implementation of this alternative would include moderate adverse impacts on cultural landscapes that could result in an adverse effect at some sites. National Park Service staff would work with the state historic preservation officer and advisory council to prevent an adverse effect. Any adverse effects to cultural landscapes under section 106 would be mitigated according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

### Alternative C

**Parkway-wide.** Under alternative C, there would be potential impacts on cultural landscapes through the construction of new grade separation structures when at-grade crossings are replaced. Impacts would be caused by the potential modification of

landscape features or changes in access and use in the vicinity of the construction. The impacts from the possible modification of landscape features or patterns could be kept in the minor to moderate range through appropriate mitigative measures and would be in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*. The use of areas with existing disturbance and construction within the existing footprint of prior construction would help to minimize impacts on cultural landscapes. Before all construction site-specific surveys would be conducted and cultural resources would be avoided to the greatest extent possible. Adverse impacts would be site-specific, primarily minor and short-term, although some moderate adverse impacts could occur.

The creation of new multiuse trails could constitute an adverse site-specific impact on cultural landscapes under alternative C. These impacts could be mitigated by planning new trails in areas of existing disturbance and planning construction activities to be compatible with the existing historic setting and cultural landscapes. Impacts would be kept in the minor range through appropriate mitigative measures whereby topography, land use, and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape.

As with alternatives A and B, some of the planned campground upgrades at the nine parkway campgrounds, facility upgrades, and additions of new facilities for concessions under alternative C could result in site-specific adverse impacts on historic campgrounds. Adverse impacts on cultural landscapes in the area would possibly result from some of the planned adaptations for universal accessibility at the nine campgrounds. The introduction of noncontributing elements to the historic setting could result in a minor to moderate site-specific adverse impact for the long term.

However, because upgrades would be accomplished within the existing design and configuration of the campgrounds, adverse

impacts would be site-specific, negligible to minor, and short-term because they would not alter the features and patterns of the cultural landscapes; therefore, they would likely not be noticeable. Maintenance of the other existing infrastructure and facilities would be a beneficial long-term impact on cultural landscapes because the infrastructure would be maintained in good condition without disturbance or changes to the cultural landscape features, such as spatial organization, land use patterns, circulation systems, topography, vegetation, structures, cluster arrangements, small-scale features, or views and vistas.

Creating new parkway land use maps that allow for a deviation from the historic character when necessary to capture regional landscape character and provide for recreational uses could be a long-term adverse impact on the historic designed parkway. The intensity of the impact would range from negligible to major depending on the degree of deviation from the original design. However, such deviation would be in keeping with the original intent of the parkway and as such could be a long-term beneficial impact on cultural landscapes.

The closure of some pull-offs where views have been substantially compromised could be a long-term site-specific minor to moderate adverse impact on cultural landscapes, as the impacts would be local. The replacement of pull-offs in another location where the views are open and could be protected would be beneficial to the original intent but could be an adverse impact on the parkway as a national historic landmark because it would introduce a noncontributing element to the designed landscape. There would also be potential adverse impacts on cultural landscapes resulting from ground-disturbing activities resulting from vista maintenance and restoration. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* would ensure that replacement pull-offs would minimally affect the patterns and site features of the cultural landscape. The

topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

As under alternative B, an active and engaged interpretation and visitor services management program along the parkway under alternative C would benefit cultural landscapes because continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of cultural landscapes and how visitors can reduce their impacts to such resources would curtail inadvertent impacts such as vandalism or wear and tear, thus minimizing adverse impacts. In addition, monitoring the carrying capacity of cultural landscapes could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts to cultural landscapes from visitation would be long-term and of negligible to minor intensity.

Under alternative C, there would be long-term beneficial impacts on cultural landscapes from the land protection program with the added benefit of regional partnerships to enhance the protection of cultural resources, including cultural landscapes. Continued implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's cultural landscapes and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. The acquisition of conservation easements and land from willing sellers would also protect cultural landscapes from inappropriate alteration or demolition. Impacts would be long-term and beneficial.

Long-term beneficial impacts to cultural landscapes through a long-term regional ecosystem health approach as impacts on cultural resources would be realized and anticipated in a larger context providing for

better understanding of impacts on their continued management and preservation.

Under alternative C, possible conversion of some human-made water features to natural habitat could adversely impact nearby cultural landscapes as the designed landscape could be altered causing an adverse impact and threatening the eligibility of the landscape for national register listing if the historic setting of the cultural landscape is jeopardized. Adverse impacts on cultural landscapes could be site-specific, minor or moderate, depending on the degree of alteration in the setting and the cultural landscape features impacted.

As under alternative B, partnerships would be enhanced for even greater beneficial impact on cultural landscapes for the long term in alternative C. Continued implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's cultural landscapes and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. Impacts would be long-term and beneficial.

Cultural landscape features representative of the parkway's original design intent would be given priority for preservation as contributing elements to the national historic landmark. In addition, continued implementation of partnership management strategies, such as the scenery conservation management strategy, would emphasize the significance and potential fragility of the parkway's cultural landscapes and engage parkway stakeholders, neighbors, and local governments in active preservation of the resources and discourage inadvertent impacts and vandalism. The acquisition of conservation easements and land from willing sellers would also protect cultural landscapes from inappropriate alteration or demolition. These impacts would be long-term and beneficial.

Similar to alternatives A and B, alternative C includes working with partners to avoid sensitive resource areas when relocating some sections of the Appalachian Trail. Under alternative C, the development of new multiuse trails could constitute an adverse impact on cultural landscapes, which could be disturbed or destroyed with the introduction of new features and elements to significant landscape features. Impacts would be kept in the minor range through appropriate mitigative measures whereby topography, land use, and native vegetation patterns of such sites would remain largely unaltered, leaving unaffected the cultural landscape.

The use of areas with existing disturbance, and construction within the existing footprint of prior construction would also minimize any of the above impacts.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide sections are described below.

**Segments 1 and 2: Ridge and Roanoke—** Under alternative C, the redesign of multiuse trails and some pullouts would involve ground disturbance that could result in short-term minor adverse impacts on pullouts that contribute to the national register eligibility of the historic parkway. Impacts would be kept in the minor range through appropriate mitigative measures whereby topography, land use, and native vegetation patterns of such sites would remain largely unaltered, leaving unaffected the cultural landscape.

**Segment 4: Highlands—** The creation of new multiuse trails in the Highlands segment could possibly pose a potential site-specific adverse short-term impact on cultural landscapes. Impacts would be kept in the minor range through appropriate mitigative measures whereby topography, land use, and native vegetation patterns of such sites would remain largely unaltered, leaving the cultural landscape.

**Segment 6: Asheville—** The development of additional parking and trails would possibly

result in site-specific short-term minor adverse impacts on cultural landscapes if noncontributing elements may be introduced to the cultural landscape, impacting significant landscape features in this area. The addition of the shuttle system would introduce other noncontributing elements to the parkway cultural landscape and could impact significant circulation systems or land use patterns. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* would ensure that modifications would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

**Segment 7: Pisgah**—Under alternative C, some modifications to vistas and overlooks could impact significant cultural landscape features in an adverse way by altering historic vistas or small-scale features. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* would ensure that modifications would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and of minor intensity.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

**Humpback Rocks**—The increased capacity of the visitor contact station under alternative C would improve interpretation of the turnpike. This would be a long-term beneficial impact as visitors would obtain new understanding of the site through the marking of the turnpike,

which could in turn lead to better preservation of cultural landscapes because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources. At the same time, however, drawing attention to the historic Howardsville Turnpike route would cause a potential site-specific minor adverse impact through increased attention on this cultural resource. Increased use could lead to trampling and disturbance of previously undocumented historic sites and additional deterioration to the turnpike itself.

The 12-month visitor use season under alternative C could cause adverse impacts, such as deterioration, wear and tear, or vandalism to cultural landscapes. Adverse impacts from visitation would be long-term and of negligible to minor intensity. However, increased monitoring and the presence of park staff could also provide a beneficial long-term impact these resources through additional interpretive programming and resource management activities designed to educate and protect such cultural resources, including cultural landscapes.

Zoning at Humpback Rocks under alternative C emphasizes the natural zone with some recreation zoning to accommodate multiuse trail development. In the natural zone, efforts would be made to retain and enhance cultural landscapes that contribute to the national historic landmark designation and national register listing and eligibility. An area adjacent to the parkway near Greenstone Overlook is zoned for scenic character while the parkway itself is zoned history parkway. Areas adjacent to the visitor contact station and the picnic area are zoned park support. As with alternative B where it is zoned natural, scenic character, and historic parkway, cultural landscapes under alternative C would be well protected and would primarily be beneficially impacted for the long term as cultural landscapes contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone, cultural landscapes would also

be protected, providing for a long-term beneficial impact.

**James River/Otter Creek**—Under alternative C, the restoration of the natural wetland by removing the dam and the lake in the James River and Otter Creek recreation area would likely be an adverse impact on the cultural landscape of the designed historic parkway because these water features are significant contributing features of the cultural landscape. This impact would be site-specific, long-term, and moderate.

Adverse impacts on cultural landscapes would also possibly result from some of the planned adaptive reuse, campground and facility upgrades, and additions of new facilities in the James River and Otter Creek recreation area. However, because upgrades would be accomplished within the existing design and configuration of the campgrounds, adverse impacts would be site-specific, negligible to minor, and short-term because they would not alter the features and patterns of the cultural landscapes, and therefore, would likely not be noticeable. Maintenance of the other existing infrastructure and facilities would be a beneficial long-term impact on cultural landscapes because the infrastructure would be maintained in good condition without disturbance or changes to the cultural landscape features, such as spatial organization, land use patterns, circulation systems, topography, vegetation, structures, cluster arrangements, small-scale features, or views and vistas.

Zoning at James River and Otter Creek under alternative C emphasizes the natural zone. In the natural zone, efforts would be made to retain and enhance cultural landscapes that contribute to the national historic landmark designation and national register listing and eligibility. The special cultural resource zone at Canal Lock would provide for beneficial impacts on cultural resources through added protection of significant cultural landscape features. An area adjacent to the parkway south of the canal is zoned for scenic character while the parkway itself is zoned history parkway. Areas adjacent to the Otter

Creek Restaurant and Campground are zoned park support. Where there it is zoned natural, scenic character, or historic parkway, cultural resources would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone, cultural landscapes would also be protected, providing for a long-term beneficial impact.

**Peaks of Otter**—Site-specific minor to moderate adverse impacts on cultural landscapes in the Peaks of Otter area under alternative C would possibly result from some of the potential new facilities and upgrades for concessions and campgrounds. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that new facilities or upgrades would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

The rehabilitation of the Johnson farm in this area to its historical appearance would be beneficial to cultural landscapes for the long term. Restoration would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Any materials removed during restoration efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the restoration of historic structures would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, any adverse impacts would be of negligible to minor intensity and long-term.

The longer visitor use season in this area would allow cultural landscapes to be used for

interpretation. Increased visitation could cause cultural landscapes to suffer wear and tear from visitation, trampling, and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the cultural landscapes could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts from visitation would be long-term and of negligible to minor intensity.

Zoning at Peaks of Otter under alternative C emphasizes the natural zone in which management efforts would retain and enhance cultural resources that contribute to the parkway's national historic landmark designation and national register eligibility. The special cultural resource zones at Saunders Farm and Johnson Farm would tolerate very little cultural resource impact so would provide for beneficial impacts on cultural landscapes through added protection. Areas adjacent to the parkway leading into and exiting the recreation area are zoned for scenic character while the parkway itself is zoned history parkway. Areas adjacent to Abbott Lake are zoned park support. As with alternative B, under alternative C, cultural landscapes would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone, cultural landscapes would also be protected, providing for a long-term beneficial impact.

**Roanoke Mountain**—Adverse impacts on campground facilities and cultural landscapes in the Roanoke Mountain recreation area would possibly result from some of the planned campground upgrades. The introduction of noncontributing elements to

the historic setting could result in an adverse impact for the long term. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that upgrades would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Zoning at Roanoke Mountain is primarily focused on recreation. In the recreation zone, cultural landscapes would be used to support interpretation and other visitor services which could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to cultural landscape features in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources.

Where there is zoning for scenic character and historic parkway, cultural landscapes would be better protected and would primarily be beneficially impacted as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized.

**Smart View**—In the natural zone surrounding the picnic area in the Smart View recreation area, under alternative C efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility and fewer impacts on cultural resources would be tolerated. In this recreation area, the parkway is zoned historic parkway and is surrounded on either side with scenic character zoning. Where there is zoning for scenic character and historic parkway, cultural landscapes would be better protected and would primarily be beneficially impacted as resources contributing to national historic landmark designation and national



register eligibility would be emphasized. The picnic area is zoned for visitor services, which would also preserve cultural landscapes while allowing for ongoing visitor uses in the area.

**Rocky Knob**—Under alternative C, actively managing the cultural landscape’s historic settlement sites through interpretive waysides, self-guiding trails, and guided walks would likely have a long-term beneficial impact from enhancing preservation and increasing monitoring of the significant cultural landscape features.

Comfort station, campground upgrades, and RV access would be improved. Site-specific adverse impacts on the cultural landscape in the area would possibly result from some of the planned conversions, facility upgrades, and additions of new facilities associated with these activities. The introduction of noncontributing elements to the historic setting could result in adverse impacts the cultural landscapes. Sensitive design in accordance with *The Secretary of the Interior’s Standards for the Treatment of Historic Properties (1995)* would ensure that modifications would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor in intensity.

Zoning at Rocky Knob under alternative C emphasizes the natural zone. Visitor services zones are situated at the campground, trailhead shelter, and Rocky Knob Cabins. Some park support zoning is present for the maintenance area and district offices near the campground and the fire road in the gorge is also designated as such. Areas adjacent to the parkway leading into and exiting the recreation area are zoned for scenic character while the parkway itself is zoned history parkway. In the natural zone, efforts would be made to retain and enhance cultural resources, including cultural landscapes that contribute to the parkway’s national historic

landmark designation and national register listing and eligibility.

As with alternative B, the special cultural resource zone in the Rockcastle Gorge would tolerate very little cultural resource impact so would provide for beneficial impacts on cultural landscapes through added protection. Where there it is zoned natural, scenic character, and historic parkway, cultural landscapes would be well protected and would primarily be beneficially impacted for the long term as cultural landscape features and patterns contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support and visitor services zones, cultural landscapes would also be protected, providing for a long-term beneficial impact.

**Mabry Mill**—The Mabry Mill area under alternative C is zoned very similarly to alternative B. Zoning in this area includes scenic character, historic parkway, visitor services, and special natural resource. A greater level of protection would be afforded in the scenic character, historic parkway, and special natural resource zoned areas where cultural resources contributing to national historic landmark designation and national register eligibility would be protected. In the visitor services zone, cultural resources, including cultural landscapes, would be used to support interpretation and other visitor services, which could be an adverse short-term site-specific impact on such resources.

**Blue Ridge Music Center**—Zoning in the Blue Ridge Music Center area includes a large area devoted to natural zoning where cultural resources, such as cultural landscapes, would be actively protected for the national register eligibility and for the role as contributing elements to the designation of the parkway as a national historic landmark. This is also true of the areas zoned for scenic parkway and historic parkway, as well as special natural zone. Impacts on cultural landscapes in these areas would be primarily long-term and beneficial.

In the visitor services zone, there could be some short-term site-specific minor adverse impacts on cultural resources, including cultural landscapes, as some landscapes may be adapted or used to accommodate the needs of the visiting public. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) would ensure that modifications would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

**Cumberland Knob**—The potential creation of additional trails and picnic infrastructure under alternative C could adversely impact cultural landscapes with the addition of noncontributing elements. Impacts would be kept in the minor range through appropriate mitigative measures whereby topography, land use, and native vegetation patterns of such sites would remain largely unaltered, leaving unaffected the cultural landscape.

Zoning at Cumberland Knob includes natural, recreation, scenic parkway, and historic parkway. Zoning in this area would generally benefit cultural resources, including cultural landscapes, although there could be some minor site-specific adverse short-term impacts in the areas zoned recreation. Where there is historic parkway, scenic parkway, and natural zoning, parkway cultural landscapes would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

**Doughton Park**—Under alternative C, improved management of the fields at Brinegar Cabin would provide for a beneficial impact on the cultural landscape by replicating the historic setting. Planned facility upgrades, and additions of new facilities campground facilities in the area under alternative C would possibly result in adverse impacts on cultural landscapes. The

introduction of noncontributing elements to the historic setting could result in an adverse impact for the long term. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) would ensure that modifications would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Under alternative C, a substantial part of the area is zoned natural. The parkway itself is zoned for historic parkway with scenic character zoning adjacent. There is visitor service zoning in the developed areas, while the Brinegar Cabin and Caudill Cabin are zoned as special cultural resource zones. The Grassy Gap Fire Road is zoned for park support. Zoning in this area would generally benefit cultural landscapes, although there could be some minor site-specific adverse short-term impacts in the areas zoned for park support or visitor services. Where there is historic parkway, scenic character, and natural zoning, parkway cultural landscapes would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark. Few impacts on cultural landscapes would be tolerated in the special cultural resource zones so this would be an added long-term benefit to those resources.

**Julian Price**—Under alternative C, zoning at Julian Price is primarily focused on recreation and natural zoning. There is some historic parkway zone in the area around Price Lake, and some special natural resource zoning interspersed with the natural zone. Zoning in this area would generally benefit cultural resources, including cultural landscapes, although there could be some minor site-specific adverse short-term impacts in the areas zoned recreation. In the recreation zone, cultural resources would be used to support interpretation and other visitor services which

could be a minor to moderate site-specific short-term adverse impact on such resources due to potential vandalism and wear and tear. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated historic structures in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of all cultural resources. Where there is historic parkway, natural and special natural zoning, parkway cultural landscapes would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Linville Falls*—Under alternative C, adverse impacts on cultural landscapes in the Linville Falls area would possibly result from some of the planned upgrades, trail improvements, improved RV access, and possibly from redesigning the picnic area and converting the visitor contact station to a trailhead shelter. Some of these impacts could alter significant topographical features, vegetation, or small-scale features in these areas. Impacts could be mitigated for the long term through appropriate screening and use of vegetation and appropriate redesign, and in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Cultural Landscapes*. Impacts would be site-specific, short-term, adverse, and minor.

The 12-month visitor use season in this area would allow cultural landscapes to be used for interpretation. Increased visitation could cause cultural landscapes to suffer wear and tear from visitation, trampling, and vandalism. Continued law enforcement patrol and emphasis on visitor education regarding the significance and fragility of historic structures and how visitors can reduce their impacts to such resources would curtail inadvertent impacts and discourage vandalism, minimizing adverse impacts. In addition, monitoring the carrying capacity of the cultural landscapes could result in the imposition of visitation levels or constraints that would contribute to the stability or

integrity of the resources without unduly hindering interpretation for visitors. Adverse impacts from visitation would be long-term and of negligible to minor intensity.

Zoning at Linville Falls includes more natural zoning. The spur road to the visitor contact station would be zoned for visitor services and would allow for a greater degree of impact. The campground would also be zoned differently from B and would be visitor service designated. The parkway itself is zoned for historic parkway with scenic character designated to either side. Park support zones exist at the maintenance facility. Impacts from this zoning would generally benefit cultural landscapes for the long term through added protection of significant cultural landscape features in these areas.

*Craggy Gardens*—Under alternative C, improved management of the fields at Brinegar Cabin would provide for a beneficial impact on the cultural landscape by replicating the historic setting. Planned facility upgrades, and additions of new facilities campground facilities in the area under alternative C would possibly result in adverse impacts on cultural landscapes. The introduction of noncontributing elements to the historic setting could result in an adverse impact for the long term. Sensitive design in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)* would ensure that modifications would minimally affect the patterns and site features of the cultural landscape. The topography and land use and native vegetation patterns of such sites would also remain largely unaltered, leaving unaffected the cultural landscape. Any adverse impacts would be long-term and minor intensity.

Zoning at Craggy Gardens Area under alternative C is natural. The picnic area, campground, and gift shop are all zoned for visitor services. The parkway is zoned historic parkway with scenic character designated to either side. The cultural landscape would benefit from the natural zone designation through added protection and low-level

visitor use within this zone. The cultural landscape would be evaluated for national register eligibility and would be better preserved in the natural, scenic character, and historic parkway zones.

**Mt. Pisgah**—Restoration of the Buck Spring Lodge cultural landscape would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the treatment of Cultural Landscapes*. Any materials removed during restoration efforts would be evaluated to determine their value to the parkway's museum collections or for their comparative use in future preservation work at the sites. Because the restoration of the cultural landscape would be undertaken in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, any adverse impacts would be of negligible to minor intensity and long-term.

Under alternative C, the Mt. Pisgah recreation area is zoned primarily as a natural zone and the parkway is designated for historic parkway with some adjacent special natural resource zones. The campground and amphitheater area would be designated visitor services zone, which would tolerate greater impacts when compared to alternative B. These impacts would likely be site-specific, short-term, adverse, and minor. The cultural landscape would be evaluated and managed to maintain their eligibility for the national register and for their role in the designation of the parkway as a national historic landmark and resources protected. Cultural landscape treatments would be in keeping with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the treatment of Cultural Landscapes*. There would be added protection from the designation of the Buck Springs Lodge Ruin special cultural resource zone, where few impacts on cultural resources would be tolerated.

**Cumulative Effects.** Over the years, cultural landscapes outside the parkway may have been demolished for agriculture and the

development and expansion of communities. Types of development include residential homes, subdivisions, commercial businesses, and industry. Increasing trends in these developments are projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region could result in loss or diminished integrity of the cultural landscapes surrounding the parkway, increased vandalism or other illegal activities, or unsupervised use. Cumulative impacts from these activities have been adverse, moderate, and long-term.

As described above, implementation of alternative C would result in both long-term minor to moderate adverse effects and beneficial effects to cultural landscapes. Both the beneficial and minor to moderate long-term adverse impacts of this alternative, in combination with the moderate long-term adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate adverse cumulative effect. The adverse effects of alternative C, however, would be a small component of the adverse effect cumulative impact.

**Conclusion.** Alternative C would have short- and long-term minor to moderate adverse impacts, and long-term beneficial impacts on the cultural landscapes. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions, would result in short- and long-term minor to moderate site-specific adverse cumulative impacts, and long-term beneficial cumulative impacts. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small. The impact under section 106 of the National Historic Preservation Act would be an adverse effect for the moderate adverse impacts and would be no adverse effect in the case of the beneficial impacts, cumulative and otherwise.

**Section 106 Summary.** After applying the Advisory Council's criteria of adverse effects

(36 CFR 800.5 Assessment of Adverse Effects) the National Park Service concludes that implementation of this alternative would include moderate site-specific adverse impacts on cultural landscapes that could result in an adverse effect at some sites. National Park Service staff would work with the state historic preservation officer and advisory council to prevent an adverse effect. Any adverse effects to cultural landscapes under section 106 would be mitigated according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

## ARCHEOLOGICAL RESOURCES

### Methods and Assumptions for Analyzing Impacts

Impacts to archeological resources were evaluated by comparing projected changes resulting from the action alternatives (B and C) to those of the no-action alternative (A). The thresholds used to determine impacts on these resources are defined as follows.

**Negligible:** Impacts would be at the lowest levels of detection with neither adverse nor beneficial consequences. For purposes of section 106, the determination of effect would be no adverse effect.

**Minor:** Disturbance of a site(s) results in little, if any, loss of integrity. For purposes of section 106, the determination of effect would be no adverse effect. The determination of effect for section 106 would be no adverse effect.

**Moderate:** Disturbance of a site(s) results in loss of integrity and result in measurable changes that could diminish the overall integrity of the resource to the extent that its national register eligibility could be jeopardized. For purposes of section 106, the determination of effect would be adverse effect.

**Major:** Disturbance of a site(s) results in loss of integrity, diminishing the overall integrity of the resource to the extent that it would no longer be eligible to be listed on the national register. For purposes of section 106, the determination of effect would be adverse effect.

**Cumulative Impacts.** The Council on Environmental Quality regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives, including the no-action alternative.

Cumulative impacts were determined by combining the impacts of the alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Blue Ridge Parkway and, if applicable, the surrounding region.

### Parkway-wide Actions Common to All Alternatives

The surveys and research necessary to determine the eligibility of archeological sites for listing in the national register, or for designating the Blue Ridge Parkway as a national historic landmark, are a prerequisite for understanding the resource's significance, as well as the basis of informed decision making in the future regarding how such resources should be managed. Such surveys and research, as well as nominations to the national register or designation as a national historic landmark, would be a permanent beneficial impact to archeological resources.

The designation of the parkway as a national historic landmark under alternative A would have a beneficial impact on all parkway cultural resources, including archeological resources. Designation would make historic preservation a management priority, promote appropriate preservation activities, and could result in increased survey and identification of more national register-eligible archeological sites. Archeological resources would be managed in accordance with the parkway's as-built conditions and maintenance standards for the designed landscape, as well as in consideration of their national register eligibility.

### **Alternative A—No-action**

**Parkway-wide.** Under alternative A, the parkway staff would continue to use the historic Parkway Land Use Maps that document the as-built conditions and desired future maintenance standards for the designed landscape as a guide for the maintenance of the national register-eligible motor road and its contributing archeological resources. Related ground-disturbing activities could result in site-specific and permanent minor to moderate adverse impacts to archeological sites if some of these sites are altered and lose integrity as a result.

There would be no impacts on archeological resources from access and circulation management strategies under the no-action alternative because ground-disturbing activities, if any, would be limited to previously disturbed areas.

Planned upgrades and other work in campgrounds under alternative A would be accomplished within the existing design and configuration of the campgrounds. Since all ground disturbances would be contained within the existing campground footprint, there would be no adverse impacts to archeological resources in these areas.

The removal of concession structures and related landscape maintenance under alternative A would involve ground

disturbance that could result in the disturbance of archeological features or artifacts, or other alterations to sites, which could result in loss of integrity to archeological sites. This could result in site-specific permanent minor adverse impacts on both historic and prehistoric archeological resources.

Archeological resources could be adversely impacted if the maintenance of historic vistas and cultural landscapes involved some ground disturbance. Potential adverse impacts on archeological resources would likely be site-specific, minor, and permanent.

The land protection program under alternative A would involve acquisition of conservation easements and land from willing sellers. This would provide a permanent beneficial impact on archeological resources within these areas through added protection of resources on these newly acquired lands by including provisions for the protection of archeological resources.

Archeological resources would benefit from the partnership management strategies included in alternative A. Beneficial impacts would result from engaging the public and partners in active preservation programs for archeological resources. One example of partnering might include working with local colleges or universities to conduct archeological survey and inventory, which could result in the identification of more archeological resources in the parkway.

The continued management of designed landscape features, roadsides, vistas, and agricultural leases for primarily scenic and recreational purposes would be a beneficial impact on archeological resources because there would be no anticipated ground disturbance of archeological resources.

Working with partners to avoid sensitive resource areas and the relocation of some sections of the Appalachian Trail would provide a permanent beneficial impact on archeological resources. New trail construction or ground disturbance from

relocating Appalachian Trail segments or from work on the Mountains-to-Sea Trail would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

The maintenance of the existing trail system and uses, as well as the continued prohibition of off-road bicycling and the use of designated trails for equestrians would be a permanent beneficial impact on archeological resources because keeping disturbance in areas where use is already occurring would prevent new impacts in currently undisturbed areas where archeological resources exist. Many areas of the parkway have not been surveyed for archeological resources and the use of existing trails would help protect previously unknown sites and resources from being impacted or inadvertently damaged.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segments 1, 4, and 6: Ridge, Highlands, and Asheville*—Continued partnering with local stakeholders and the U.S. Forest Service could benefit all cultural resources through active trail management and the possible direction of use away from fragile archeological sites. Ground-disturbing activities from trail improvements would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

*Segment 2: Roanoke*—Development of trails and related construction activities could involve ground-disturbing activities near archeological sites. Such activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these

activities. No adverse impacts on archeological resources are anticipated.

*Segment 7: Pisgah*—Efforts to maintain vistas in this segment would involve some possible ground disturbance that could potentially cause loss of integrity to archeological sites. However, ground-disturbing activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Adverse impacts on archeological resources would be negligible to minor and permanent due to the potential for slight and inadvertent disturbance to archeological resources.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*Humpback Rocks*—Under alternative A, the possible rerouting of Appalachian Trail segments in the Humpback Rocks area is focused on preserving sensitive resources. This work would most likely result in permanent beneficial impacts because archeological resources would be avoided.

*James River, Rocky Knob, Julian Price Memorial Park, Linville Falls, Crabtree Falls, and Mt. Pisgah*—Under alternative A, these recreation areas would experience upgrades to existing comfort stations. Related ground-disturbing activities from the upgrade of comfort stations would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

*Peaks of Otter, Mabry Mill, Doughton Park, and Craggy Gardens*—Under alternative A, changes are proposed for comfort stations and some concession facilities in these recreation areas. Ground disturbance involved with the reuse or adaptation of

concession facilities or with comfort station upgrades would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

**Cumulative Impacts.** Archeological sites continually deteriorate, due primarily to the effects of weather and gravity. Left alone, sites will inevitably degrade over time. Human disturbance contributes to the effects of natural agents of deterioration and can substantially increase the rate of site deterioration. Over the years, archeological resources on both private and parkway lands have been vulnerable to inadvertent damage and vandalism. Inadvertent impacts would include picking up or otherwise displacing shards and other artifacts, the compaction of cultural deposits, and the creation of social trails (which can lead to erosion and destabilization of the original site architecture). Intentional vandalism includes removing artifacts and probing or digging in sites. Inadvertent damage or vandalism would result in a loss of surface archeological materials, alteration of artifact distribution and a reduction of contextual evidence, resulting in permanent adverse impacts of minor to major intensity.

Past, present, and future construction and agricultural practices on lands adjacent to the parkway and throughout the region lands have disturbed archeological resources, resulting in permanent, moderate to major adverse impacts on archeological resources outside of but adjacent to the parkway.

As described above, implementation of the no-action alternative would result in both beneficial and minor to moderate permanent adverse effects to archeological resources. The minor to moderate permanent adverse impacts of this alternative, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate to major cumulative effect. The adverse effects of the no-action

alternative would be a small component of the adverse cumulative impact.

**Conclusion.** Alternative A would have permanent site-specific minor to moderate adverse impacts when considering the overall archeological resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in permanent moderate to major adverse and beneficial cumulative effects. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, alternative A's contribution to these effects would be small.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** Under alternative B, expanding the campground infrastructure needed to offer greater amenities (septic systems, drinking water), the construction of new grade separation structures, and upgrades to campground infrastructure could involve ground-disturbing activities. Activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Activities in areas with existing disturbance and construction within the existing footprint of prior construction would also help to avoid adverse impacts. No adverse impacts on archeological resources are anticipated.

Like alternative A, ground-disturbing activities associated with planned facility upgrades and additions of new facilities for concessions would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Activities in areas with existing disturbance and construction within the existing footprint of prior construction would also help to avoid adverse impacts. No



adverse impacts on archeological resources are anticipated.

Historic vistas would be inventoried and maintained for scenic viewing. Archeological resources could be adversely impacted if the maintenance and restoration of historic vistas involved some ground disturbance. Such activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Potential adverse impacts on archeological resources would likely be site-specific, minor, and permanent.

As in alternative A, land protection management activities under alternative B would involve beneficial impacts on the preservation of archeological resources through acquisition and the targeting of specific cultural resources to be acquired. This approach would be a long-term beneficial impact on archeological resources because more potentially national register-eligible archeological sites would be protected. The establishment of criteria for acquisition and protection would further enhance preservation of all cultural resources for a long-term beneficial impact.

Under alternative B, partnerships would be enhanced for even greater beneficial impact on archeological resources under alternative B for the long term. Beneficial impacts would result from engaging the public and partners in active preservation programs for archeological resources. One example of partnering might include working with local colleges or universities to conduct archeological survey and inventory, which could result in the identification of more archeological resources in the parkway.

Under alternative B, the active management of scenery and the preservation of historic views would be a beneficial impact on archeological resources because there would be no anticipated ground disturbance of archeological resources and archeological resources could gain greater protection

through collaboration with adjacent landowners, county officials, and developers. As under alternative A, working with partners to avoid sensitive resource areas and the relocation of some sections of the Appalachian Trail would provide a permanent beneficial impact on archeological resources. New trail construction or ground disturbance from relocating Appalachian Trail segments or from work on the Mountains-to-Sea Trail would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

As under alternative A, the maintenance of the existing trail system and uses, as well as the continued prohibition of off-road bicycling and the use of designated trails for equestrians would be a permanent beneficial impact on archeological resources because keeping disturbance in areas where use is already occurring because not result in new impacts in currently undisturbed areas where archeological resources exist. Many areas of the parkway have not been surveyed for archeological resources and the use of existing trails would help protect previously unknown sites and resources from being impacts or inadvertently damaged.

The construction of new walking paths under alternative B and associated ground disturbance activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Archeological resources adjacent to or easily accessible from visitor use areas or trails would be vulnerable to inadvertent damage and vandalism. Such adverse impacts could be mitigated through additional stabilization of the sites and the elimination of social trails to disturbed or vulnerable sites. In addition, continued law enforcement patrol and emphasis on visitor education regarding the

significance and fragility of such resources and how visitors can reduce their impacts to them would discourage inadvertent impacts and vandalism and minimize adverse impacts. Potential adverse impacts would be minor and permanent.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 1: Ridge*—Improvements to the north entrance under alternative B could impact archeological and other cultural resources in this segment if ground-disturbing activities are needed.

Improvements to the north entrance and providing additional visitor contacts would likely be beneficial to cultural landscapes because visitors would enter with additional historical interpretation and orientation, which would be an indirect permanent benefit to all cultural resources.

Modifications to vegetation at some pullouts in this segment could be a site-specific short-term adverse negligible to minor impact to archeological resources under alternative B, depending on the degree of ground disturbance required.

*Segment 2: Roanoke*—Minor modifications to vegetation at some pullouts in this segment could be a site-specific short-term adverse negligible to minor impact to archeological resources under alternative B, depending on the degree of ground disturbance required.

*Segment 4: Highlands*—Working with partners to protect cultural resources would benefit all cultural resources, including archeological resources, under alternative B.

*Segment 6: Asheville*—As in alternative A, continued partnering with local stakeholders and the U.S. Forest Service could benefit all cultural resources through active trail management and the possible direction of use away from fragile archeological sites. Ground-disturbing activities from trail improvements

would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

*Segment 7: Pisgah*—Redesign of the entrance in this segment could entail some ground-disturbing activities. Such activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*Humpback Rocks*—Drawing attention to the historic Howardsville Turnpike route under alternative B, would cause a potential minor adverse impact through increased attention and visitation on this cultural resource. The results of cultural resource investigations prior to these activities would allow for avoidance and protection of any archeological resources in this area. Therefore, no adverse impacts on archeological resources are anticipated.

The longer visitor use season could cause adverse impacts to archeological resources from potential ground disturbance, which could cause loss of integrity to these sites due to trampling. Such adverse impacts would be site-specific, short-term to permanent, and minor to moderate. However, the results of cultural resource investigations prior to these activities would allow for avoidance and protection of any archeological resources in this area. Increased monitoring and the presence of park staff could also benefit archeological resources through additional interpretive programming and resource management activities designed to educate and protect such cultural resources.

As with alternative A, alternative B involves the possible rerouting of Appalachian Trail segments. Because the rerouting is focused on preserving sensitive resources, this work would most likely result in permanent beneficial impacts if archeological resources could be avoided. The results of cultural resource investigations prior to these activities would allow for avoidance and protection of any archeological resources in this area.

Zoning at Humpback Rocks under alternative B is primarily focused on recreation and natural zoning. Where there is zoning for natural, scenic character, and historic parkway, cultural resources would be well protected and would primarily be beneficially impacted for the long term as archeological resources contributing to national historic landmark designation and national register eligibility would be emphasized.

*James River*—The longer visitor use season under alternative B could cause additional adverse impacts to archeological resources due ground disturbance. However, increased monitoring and the presence of park staff could also benefit these resources through additional interpretive programming and resource management activities designed to educate and protect archeological resources. The results of cultural resource investigations would also allow for avoidance and protection of any archeological resources in this area.

Ground-disturbing activities related to upgrading campground facilities and the realignment of trails at James River would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated. Zoning at James River and Otter Creek is primarily focused on recreation. Where there is zoning for scenic character and historic parkway, archeological resources would be better protected and would primarily be beneficially impacted as cultural resources contributing to national historic landmark

designation and national register eligibility would be emphasized.

*Peaks of Otter*—Adverse impacts on archeological sites in the area would possibly result from some of the potential new facilities and upgrades for concessions and campgrounds if ground disturbance diminishes the integrity of archeological resources. The rehabilitation of the Saunders and Johnsons farms could also cause some similar adverse impacts on archeological resources where ground disturbance would be involved. However, all ground-disturbing activities would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated. The longer visitor use season could cause adverse impacts to archeological resources from potential ground disturbance, which could cause loss of integrity to these sites due to trampling. Such adverse impacts would be site-specific, short-term to permanent, and minor to moderate. However, the results of cultural resource investigations prior to these activities would allow for avoidance and protection of any archeological resources in this area. Increased monitoring and the presence of park staff could also benefit archeological resources through additional interpretive programming and resource management activities designed to educate and protect such cultural resources.

Zoning at Peaks of Otter under alternative B is primarily focused on recreation. In the recreation zone, archeological resources would be used to support interpretation and other visitor services which could be a minor adverse permanent impact on such resources due to potential vandalism and wear and tear with increased visitation.

Where there is zoning for natural, scenic character and historic parkway archeological resources would be better protected and would primarily be beneficially impacted as cultural resources contributing to national historic landmark designation and national

register eligibility would be emphasized. The special cultural resource zones at Saunders Farm and Johnson Farm would provide for beneficial impacts on archeological resources through added protection.

**Roanoke Mountain**—Ground-disturbing activities from removing the campground or from future trail development would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Zoning at Roanoke Mountain is focused on recreation; however, there is an added natural zone surrounding the Roanoke Mountain Loop. In the natural zone, efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility and there would be less tolerance for impacts on archeological resources. Where there is zoning for scenic character and historic parkway, archeological resources would be better protected and would primarily be beneficially impacted because cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized.

**Smart View**—Under alternative B, the acquisition of conservation easements and land from willing sellers would protect archeological resources from disturbance or integrity loss. These impacts would be long-term and beneficial to archeological resources.

In the natural zone, efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility, and fewer impacts on archeological resources would be tolerated. Where there is zoning for scenic character and historic parkway, archeological resources would be better protected and would primarily be beneficially impacted because resources

contributing to national historic landmark designation and national register eligibility would be emphasized.

**Rocky Knob**—Ground-disturbing activities related to upgrades in the campground and improvements to trails, parking and trail staging area, and the backcountry camping area would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Zoning at Rocky Knob is primarily focused on recreation. Where there is zoning for scenic character and historic parkway, archeological resources would be better protected and would primarily be beneficially impacted because resources contributing to national historic landmark designation and national register eligibility would be emphasized. Alternative B includes a special cultural resource zone in Rockcastle Gorge where there are remnants of an abandoned mountain community. The special cultural resource zone in the Rockcastle Gorge would provide for added protection of archeological resources, and thus, result in a long-term beneficial impact on archeological sites in this area through added protection.

**Mabry Mill**—As in alternative A, proposed changes for comfort stations and some concession facilities and the relocation of the state road crossing in this recreation area could involve ground disturbance. Ground disturbance would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

The longer visitor use season under alternative B could cause adverse impacts to archeological resources from potential ground disturbance, which could cause loss of integrity to these sites due to trampling. Such adverse impacts would be site-specific, short-term to permanent, and minor to moderate.

However, the results of cultural resource investigations prior to these activities would allow for avoidance and protection of any archeological resources in this area. Increased monitoring and the presence of park staff could also benefit archeological resources through additional interpretive programming and resource management activities designed to educate and protect such cultural resources.

Zoning in this area includes scenic character, historic parkway, visitor services, and special natural resource. A greater level of protection to archeological resources would be afforded in the scenic character, historic parkway, and special natural resource zoned areas where resources contributing to national historic landmark designation and national register eligibility would be protected.

**Blue Ridge Music Center**—The ground-disturbing activities involved in the creation of multiuse trails would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Zoning in this area includes a large area devoted to natural zoning and areas zoned for scenic parkway and historic parkway where cultural resources would be actively protected as contributing elements to the designation of the parkway as a national historic landmark. Impacts on cultural resources in these areas would be primarily beneficial and long-term.

In the visitor services zone, although archeological sites may be adapted or used to accommodate the needs of the visiting public, activities would be informed by the results of cultural resource investigations prior to these activities to prevent disturbance or integrity loss to these sites. No adverse impacts on archeological resources are anticipated. Increased monitoring and the presence of park staff could also benefit these resources through additional interpretive programming and resource management activities designed

to educate and protect archeological resources.

**Cumberland Knob**—Increased visitor services could cause minor site-specific permanent adverse impacts on archeological resources in the form of ground disturbance and the potential for diminished integrity as a result. However, increased monitoring and the presence of park staff could also benefit these resources through additional interpretive programming and resource management activities designed to educate and protect archeological resources. Activities would also be informed by the results of cultural resource investigations prior to these activities to prevent disturbance or integrity loss to these sites.

Zoning at Cumberland Knob includes natural, park support and visitor services, scenic parkway, and historic parkway. Although zoning in this area would generally benefit archeological resources, some minor site-specific adverse permanent impacts in the areas zoned for visitor services could occur from increased visitor use. Activities would also be informed by the results of cultural resource investigations prior to these activities to prevent disturbance or integrity loss to these sites.

Where there is historic parkway, scenic parkway, and natural zoning, parkway archeological resources would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

**Doughton Park**—Under alternative B, ground-disturbing activities related to providing tent site and utility upgrades in the campground and the conversion of tent sites to RV sites would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Under alternative B, zoning in the Doughton Park area would generally benefit archeological resources. However, some minor site-specific adverse permanent impacts in the areas zoned for park support or visitor services could occur as a result of increased use in or near archeological sites due to disturbance or vandalism. At the same time, improved interpretation of the parkway would be a long-term beneficial impact to associated archeological resources in this area because visitors would obtain new understanding of the site and would discourage vandalism and could lead to better preservation of archeological resources. Where there is historic parkway, scenic character, and natural zoning, parkway cultural resources would benefit from designation for possible national register listing or as contributing elements of a national historic landmark. Few adverse impacts on archeological resources would be tolerated in the special cultural resource zones. This management approach would be a long-term benefit to archeological resources.

*Julian Price Memorial Park*—Upgrades to existing comfort stations would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Zoning at Julian Price under alternative B includes a substantial amount of natural zone, a small visitor services area at the campground and a new picnic area. The area around the lake is zoned for recreation. There are special natural resource zones adjacent to the parkway in several locations and the parkway itself is zoned for historic parkway. Although zoning in this area would generally benefit archeological resources, there could be some minor adverse site-specific short-term impacts in the areas zoned for recreation. Where there is historic parkway, natural, and special natural zoning, parkway cultural resources would benefit from evaluation for possible national register eligibility or as contributing

elements to the parkway as a national historic landmark.

*Linville Falls*—The longer visitor use season could cause adverse impacts to archeological resources from potential ground disturbance, which could cause loss of integrity to these sites due to trampling. Such adverse impacts would be site-specific, permanent, and minor to moderate. However, the results of cultural resource investigations prior to these activities would allow for avoidance and protection of any archeological resources in this area. Increased monitoring and the presence of park staff could also benefit archeological resources through additional interpretive programming and resource management activities designed to educate and protect such cultural resources.

Ground-disturbing activities related to campground upgrades and trail work under alternative B would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated. Zoning in the Linville Falls area focuses on recreation and scenic character of the parkway, as well as some natural zoning. A greater level of protection would be afforded in the scenic character and natural zone areas where cultural resources contributing to national historic landmark designation and national register eligibility would be protected. This would be a long-term beneficial impact to archeological resources.

*Crabtree Falls*—Ground-disturbing activities related to campground and concession upgrades and changes would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Zoning in the Crabtree Falls area focuses on recreation and scenic character of the parkway. A greater level of protection would

be afforded in the scenic character zoned areas where cultural resources contributing to national historic landmark designation would be protected.

*Craggy Gardens*—Ground-disturbing activities related to providing tent site and utility upgrades in the campground and for improving campground access for RVs under alternative B would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Under alternative B, a substantial part of the area is zoned natural. The parkway itself is zoned for historic parkway with scenic character zoning adjacent. There is visitor service zoning in the developed areas, while the Brinegar Cabin and Caudill Cabin are zoned as special cultural resource zones. The Grassy Gap Fire Road is zoned for park support. Zoning in this area would generally benefit archeological resources although there could be some minor, site-specific adverse short-term impacts in the areas zoned for park support or visitor services due to increases in disturbance or vandalism of archeological sites in the area. Where there is historic parkway, scenic character, and natural zoning, parkway cultural resources would benefit from evaluation and protection for their possible national-register listing or as contributing elements to the designation of the parkway as a national historic landmark. Few impacts on archeological resources would be tolerated in the special cultural resource zones, resulting in a permanent benefit to those resources.

*Mt. Pisgah*—Restoration of the Buck Spring Lodge cultural landscape and changes to camp sites in this area would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

This recreation area is zoned primarily as a natural zone and the parkway is designated for historic parkway with some adjacent special natural resource zones. The campground and amphitheater area would be designated historic parkway for added protections to the cultural landscape and historic resources there. Archeological sites would be evaluated and managed to maintain their eligibility for the national register and for their role in the designation of the parkway as a national historic landmark and resources protected. The Buck Springs Lodge Ruin special cultural resource zone would tolerate few impacts on cultural resource, including archeological resource, resulting in a long-term beneficial impact in this zone.

**Cumulative Impacts.** Archeological sites continually deteriorate, due primarily to the effects of weather and gravity. Left alone, sites will inevitably degrade over time. Human disturbance contributes to the effects of natural agents of deterioration and can substantially increase the rate of site deterioration. Over the years, archeological resources on both private and parkway lands have been vulnerable to inadvertent damage and vandalism. Inadvertent impacts would include picking up or otherwise displacing artifacts, the compaction of cultural deposits, and the creation of social trails (which can lead to erosion and destabilization of the original site). Intentional vandalism includes removing artifacts and probing or digging in sites. Inadvertent damage or vandalism would result in a loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence, resulting in permanent adverse impacts of minor to major intensity.

Past, present, and future construction and agricultural practices on lands adjacent to the parkway and throughout the region lands have disturbed archeological resources, resulting in permanent, moderate to major adverse impacts on archeological resources outside of but adjacent to the parkway. As described above, implementation of alternative B would result in both beneficial and minor to moderate permanent adverse

effects to archeological resources. The minor to moderate permanent adverse impacts of this alternative, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate to major cumulative effect. The adverse effects of alternative B would be a small component of the adverse cumulative impact.

**Conclusion.** Alternative B would have permanent minor to moderate adverse impacts and permanent negligible to moderate beneficial impacts on the archeological resources. Impacts associated with other past, present and reasonably foreseeable actions are the same as described under alternative A. As described above, implementation of alternative B would result in both long-term beneficial and minor to moderate permanent adverse effects to archeological resources. The impacts of alternative B, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a permanent moderate to major adverse cumulative effect. The adverse effects of alternative B, however, would be a small component of the adverse cumulative impact.

**Section 106 Summary.** After applying the Advisory Council's criteria of adverse effects (36 CFR 800.5 Assessment of Adverse Effects) the National Park Service concludes that implementation of alternative B would include moderate adverse impacts on archeological resources that could result in an adverse effect at some sites. National Park Service staff would work with the state historic preservation officer to prevent an adverse effect. Any adverse effects under section 106 would be mitigated according to the Secretary of the Interior's *Standards and Guidelines for Documentation and Treatment of Historic Properties*. Impacts would be mitigated through the use of a memorandum of agreement with the state historic preservation officer and advisory council to counteract such adverse effects.

## Alternative C

**Parkway-wide.** Under alternative C, some human-made water features would be converted to natural habitat and would involve draining human-made lakes. This activity and the potential for exposing submerged archeological resources could cause minor site-specific permanent adverse impacts to archeological sites if archeological integrity is lost as a result of these activities. Activities would be informed by the results of cultural resource investigations prior to these activities, thus minimizing adverse impacts to archeological resources.

The relocation of some parkway overlooks under alternative C could adverse impacts to archeological resources, depending on the location of these activities and their proximity to archeological resources. Such activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Potential adverse impacts on archeological resources would likely be site-specific, minor, and permanent.

Expanding the infrastructure needed to offer greater amenities, such as leech fields, under alternative C could have an adverse impact to archeological resources that are adjacent to campgrounds. Because the extent of the upgrades is larger under alternative C, the impact intensity under this alternative would be higher under alternative C than alternatives A and B. Activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Potential adverse impacts on archeological resources would likely be site-specific, minor, and permanent.

The construction of new grade separation structures, creation of new multiuse trails, planned upgrades for universal accessibility, and improvements for RV access and the widening of roads for better turning radii in alternative C would be undertaken to avoid



loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. The use of areas with existing disturbance and containing construction activities within the existing footprint of prior construction would help to avoid or lessen adverse impacts to archeological sites. No adverse impacts on archeological resources are anticipated from these activities.

As in alternative A, the removal of concession structures and related landscape maintenance under alternative A would involve ground disturbance. Such activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

Creating new parkway land use maps could allow for a deviation from the historic character when necessary in an attempt to capture regional landscape character and provide for recreational uses. This approach could cause a permanent adverse impact to archeological resources that are part of the historic designed parkway due to deterioration of such resources. The intensity of the impact would range from negligible to moderate depending on the degree of deviation from the original design and the impacts would generally be local. Activities would be informed by the results of cultural resource investigations prior to these activities to minimize potential adverse impacts.

The replacement of pull-offs along the parkway to maintain vistas and capture the original intent of the parkway could pose potential adverse impacts on archeological resources resulting from ground-disturbing activities related to vista maintenance and restoration. Ground-disturbing activities would be informed by the results of cultural resource investigations to avoid archeological resources, and as a result, potential adverse impacts would be kept to the negligible to minor range and would be permanent.

As in alternative B, partnerships would be enhanced for even greater beneficial impact on archeological resources under alternative C for the long term. Beneficial impacts would result from engaging the public and partners in active preservation programs for archeological resources. One example of partnering might include working with local colleges or universities to conduct archeological survey and inventory, which could result in the identification of more archeological resources in the parkway.

There could be some additional benefits to archeological resources through a long-term regional ecosystem health approach under alternative C because impacts on archeological resources would be realized and anticipated in a larger context providing for better understanding of impacts on their continued management and preservation.

As in alternative B, the active management of scenery and the preservation of historic views under alternative C would be a beneficial impact on archeological resources because there would be no anticipated ground disturbance of archeological resources and archeological resources could gain greater protection through collaboration with adjacent landowners, county officials, and developers.

As in alternative B, working with partners to avoid sensitive resource areas and the relocation of some sections of the Appalachian Trail would provide a long-term beneficial impact on archeological resources in alternative C. Ground disturbance from new trail construction or from relocating Appalachian Trail segments or the Mountains-to-Sea Trail would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

As in alternative B, there would be generally beneficial impacts on archeological resources from an active and engaged interpretation and

visitor services management program along the parkway under alternative C because archeological resources are better protected when visitors understand and appreciate the significance of the area's cultural resources. However, increased visitation to a year-round visitor season would also result in potential permanent adverse impacts to archeological sites due to increased trampling of archeological sites and inadvertent discoveries of sites and features. Potential impacts would be site-specific permanent adverse impacts on archeological resources that could range from minor to moderate intensity.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 1: Ridge*—Impacts in alternative C would be the same as those in alternative B with regard to the improvements to the north entrance, such as the redesign of some pullouts. Activities involving ground disturbance would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

*Segment 4: Highlands*—As in alternative A, working with partners to protect cultural resources would benefit all cultural resources, including archeological resources, under alternative C. Ground-disturbing activities from trail construction and new multiuse trails would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

*Segment 6: Asheville*—As in alternative A, continued partnering with local stakeholders and the U.S. Forest Service under alternative C could benefit all cultural resources through active trail management and the possible direction of use away from fragile archeological sites. However, ground-

disturbing activities from trail improvements and addition of the shuttle system under alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

*Segment 7: Pisgah*—As in alternative B, the redesign of the entrance in this segment under alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*Humpback Rocks*—As in alternative B, drawing attention to the historic Howardsville Turnpike route under alternative C, would cause a potential minor adverse impact through increased attention on this cultural resource. Increased use of this resource could lead to trampling and disturbance of archeological sites in the area. However, measures would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. Resulting adverse impacts would be site-specific, minor, and permanent.

Enlarging the visitor center and the development of the multiuse trail and new trails in this area would also be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

The 12-month visitor use season under alternative C could cause adverse impacts to

archeological resources from potential ground disturbance, which could cause loss of integrity to these sites due to trampling. Such adverse impacts would be site-specific, permanent, and minor to moderate. However, increased monitoring and the presence of park staff could also benefit archeological resources through resource management activities designed to educate and protect such cultural resources.

The development of the multiuse trail and new trails under alternative C and the ground disturbance this development would involve could be a potential site-specific permanent minor adverse impact on previously undocumented archeological sites and features. However, because the trail rerouting is focused on preserving sensitive resources, this work would mostly likely result in permanent beneficial impacts if archeological and historic resources could be avoided.

As with alternatives A and B, alternative C involves the possible rerouting of Appalachian Trail segments. This action would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning at Humpback Rocks under alternative C emphasizes the natural zone with some recreation zoning to accommodate multiuse trail development. An area adjacent to the parkway near Greenstone Overlook is zoned for scenic character, while the parkway itself is zoned history parkway. Areas adjacent to the visitor contact station and the picnic area are zoned park support. As with alternative B where there it is zoned natural, scenic character, and historic parkway, archeological resources would be well protected and would primarily be beneficially impacted for the long term as those contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone, archeological resources would

also be protected, providing for a long-term beneficial impact.

*James River*—The restoration of the wetland in this area instead of maintaining and dredging the lake could have some potential adverse impacts on archeological sites that are currently submerged. The exposure of these archeological resources could make them subject to vandalism and further deterioration resulting in integrity loss. These impacts would be permanent, adverse, and minor to moderate depending on the potential loss of information potential.

As in alternative B, the realignment of trails and the redesigning and upgrading the campground at James River in alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning at James River and Otter Creek emphasizes the natural zone. In the natural zone, efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility. The special cultural resource zone at Canal Lock would provide for beneficial impacts on cultural resources through added protection. An area adjacent to the parkway south of the canal is zoned for scenic character while the parkway itself is zoned history parkway. Areas adjacent to the Otter Creek Restaurant and Campground are zoned park support. As with alternative B, where there are natural, scenic character, or historic parkway zones, archeological resources would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone, archeological resources would also be protected, providing for a long-term beneficial impact.

**Peaks of Otter**—As in alternative B, ground-disturbing activities associated with the potential construction of new facilities, upgrades for concessions and campgrounds, widening the entrance, and converting campsites to rental cabins, and the rehabilitation of the Saunders and Johnsons farms would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning at Peaks of Otter under alternative C emphasizes the natural zone. In the natural zone efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility. The special cultural resource zones at Saunders Farm and Johnson Farm would tolerate very little cultural resource impact so would provide for beneficial impacts on cultural resources through added protection. Areas adjacent to the parkway leading into and exiting the recreation area are zoned for scenic character while the parkway itself is zoned history parkway. Areas adjacent to Abbott Lake are zoned park support. As with alternative B, cultural resources would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support zone cultural resources would also be protected, providing for a permanent beneficial impact.

**Roanoke Mountain**—Ground-disturbing activities from upgrading the campground under alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning at Roanoke Mountain is primarily focused on recreation. Where there is zoning for scenic character and the historic parkway, archeological resources would be better protected and would primarily be beneficially impacted as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized.

**Smart View**—The possible picnic area improvements in this area under alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

In the natural zone surrounding the picnic area, efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility and fewer impacts on cultural resources would be tolerated. In this recreation area, the parkway is zoned historic parkway and is surrounded on either side with scenic character zoning. Where there is zoning for scenic character and the historic parkway, archeological resources would be better protected and would primarily be beneficially impacted as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. The picnic area is zoned for visitor services which would also preserve cultural resources while allowing for ongoing visitor uses in the area.

**Rocky Knob**—This recreation area would experience upgrades to existing comfort stations and construction activities for RV access under alternative C. Related ground-disturbing activities would be undertaken to avoid loss of integrity to archeological resources in these areas and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources

are anticipated from these activities because impacts would be avoided.

Zoning at Rocky Knob under alternative C emphasizes the natural zone. Visitor services zones are situated at the campground, trailhead shelter, and Rocky Knob Cabins. Some park support zoning is present for the maintenance area and district offices near the campground and the fire road in the gorge is also designated as such. Areas adjacent to the parkway leading into and exiting the recreation area are zoned for scenic character while the parkway itself is zoned history parkway. In the natural zone efforts would be made to retain and enhance cultural resources that contribute to the national historic landmark designation and national register listing and eligibility.

As with alternative B, the special cultural resource zone in the Rockcastle Gorge would tolerate very little cultural resource impact so would provide for beneficial impacts on cultural resources through added protection. As with alternative B where there it is zoned natural, scenic character, and historic parkway, cultural resources would be well protected and would primarily be beneficially impacted for the long term as cultural resources contributing to national historic landmark designation and national register eligibility would be emphasized. In the park support and visitor services zones, archeological resources would also be protected, providing for a long-term beneficial impact.

**Mabry Mill**—As in alternative A, changes for comfort stations and some concession facilities and a multiuse trail developed between Mabry Mill and Meadows of Dan would involve ground-disturbing activities. These activities would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

The Mabry Mill area under alternative C is zoned very similarly to alternative B. Zoning in this area includes scenic character, historic parkway, visitor services, and special natural resource. A greater level of protection would be afforded in the scenic character, historic parkway, and special natural resource zoned areas where archeological and other cultural resources contributing to national historic landmark designation and national register eligibility would be protected.

**Blue Ridge Music Center**—The creation of multiuse trails in the area under alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning in this area includes a large area devoted to natural zoning and areas zoned for scenic parkway and historic parkway where cultural resources would be actively protected as contributing elements to the designation of the parkway as a national historic landmark. Impacts on cultural resources in these areas would be primarily beneficial. In the visitor services zone, there could be some short-term site-specific minor adverse impacts on archeological resources if areas that include archeological sites may be adapted or used to accommodate the needs of the visiting public.

**Cumberland Knob**—The ground-disturbing activities associated with the potential creation of additional trails and picnic infrastructure would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning at Cumberland Knob includes natural, recreation, scenic parkway, and historic parkway. Zoning in this area would generally

benefit archeological resources although there could be some minor adverse short-term impacts in the areas zoned recreation. Where there is historic parkway, scenic parkway, and natural zoning, parkway cultural resources would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Doughton Park*—As in alternative B, ground-disturbing activities related to providing tent site and utility upgrades in the campground in alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

At Doughton Park, zoning is primarily focused on natural zoning under alternative C. There is some historic parkway zone in the vicinity of the developed areas, and some recreation zoning. Zoning in this area would generally benefit cultural resources although there could be some minor adverse permanent impacts in the areas zoned recreation from continued or increased use. Where there is historic parkway, and natural zoning, parkway archeological resources would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Julian Price Memorial Park*—Planned upgrades to comfort stations and utilities in the campground and improving area trails would involve ground-disturbing activities. Such activities would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

At Julian Price under alternative C, zoning is primarily focused on recreation and natural zoning. There is some historic parkway zone in the area around Price Lake, and some special natural resource zoning interspersed with the natural zone. Zoning in this area would generally benefit archeological resources, although there could be some minor adverse short-term impacts in the areas zoned recreation. Where there is historic parkway, natural and special natural zoning, parkway archeological resources would benefit from evaluation and protection for their possible national register listing or as contributing elements to the designation of the parkway as a national historic landmark.

*Linville Falls*—Impacts to archeological resources in this recreation area would be the same as those in alternative B in that the longer visitor use season could cause permanent minor to moderate adverse impacts on archeological resources in the form of ground disturbance and potential loss of integrity to archeological sites. This area also would include improving RV access in the campground and possibly from redesigning the picnic area and converting the visitor contact station to a trailhead shelter. Ground-disturbing activities associated with these undertakings would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Zoning at Linville Falls includes more natural zoning. The spur road to the visitor contact station would be zoned for visitor services and would allow for a greater degree of impact. The campground would also be zoned differently from B and would be visitor service designated. The parkway itself is zoned for historic parkway with scenic character designated to either side. Park support zones exist at the maintenance facility. Impacts from this zoning would generally benefit archeological resources for the long term.

**Crabtree Falls**—Zoning at Crabtree Falls Recreation Area under alternative C is natural where it is recreational in alternative B. The picnic area, campground, and gift shop are all zoned for visitor services. The parkway is zoned historic parkway with scenic character designated to either side. Archeological resources would benefit from the natural zone designation through added protection, and fewer adverse impacts would be tolerated. Cultural resources, including archeological resources, would be evaluated for national register eligibility and better preserved in the natural, scenic character and historic parkway zones.

**Craggy Gardens**—As in alternative B, ground-disturbing activities related to providing tent site and utility upgrades in the campground and for improving campground access for RVs in alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

**Mt. Pisgah**—As in alternative B, restoration of the Buck Spring Lodge cultural landscape and changes to camp sites in this area in alternative C would be undertaken to avoid loss of integrity to archeological resources in these areas, and would be informed by the results of cultural resource investigations prior to these activities. No adverse impacts on archeological resources are anticipated from these activities because impacts would be avoided.

Under alternative C, this recreation area is also zoned primarily as a natural zone and the parkway is designated for historic parkway with some adjacent special natural resource zones. The campground and amphitheater area would be designated visitor services zone which would tolerate greater impacts as compared to alternative B. These impacts would likely be short-term, adverse, site-specific, and minor. There would be added protection from the designation of the Buck

Springs Lodge Ruin special cultural resource zone where few impacts on cultural resources would be tolerated.

**Cumulative Impacts.** Archeological sites continually deteriorate, due primarily to the effects of weather and gravity. Left alone, sites will inevitably degrade over time. Human disturbance contributes to the effects of natural agents of deterioration, and can substantially increase the rate of site deterioration. Over the years, archeological resources on both private and parkway lands have been vulnerable to inadvertent damage and vandalism. Inadvertent impacts would include picking up or otherwise displacing shards and other artifacts, the compaction of cultural deposits, and the creation of social trails (which can lead to erosion and destabilization of the original site). Intentional vandalism includes removing artifacts and probing or digging in sites. Inadvertent damage or vandalism would result in a loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence, resulting in permanent adverse impacts of minor to major intensity.

Past, present, and future construction and agricultural practices on lands adjacent to the parkway and throughout the region lands have disturbed archeological resources, resulting in permanent, moderate to major adverse impacts on archeological resources outside of but adjacent to the parkway.

As described above, implementation of alternative C would result in both beneficial and minor to moderate permanent adverse effects to archeological resources. The minor to moderate permanent adverse impacts of this alternative, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate to major cumulative effect. The adverse effects of alternative C would be a small component of the adverse cumulative impact.

**Conclusion.** Alternative C would have permanent minor to moderate adverse

impacts, and permanent negligible to moderate beneficial impacts on the archeological resources. Impacts associated with other past, present and reasonably foreseeable actions are the same as described under alternative A. As described above, implementation of alternative C would result in both long-term beneficial and minor to moderate permanent adverse effects to archeological resources. The impacts of alternative C, in combination with the minor to major permanent adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a permanent moderate to major adverse cumulative effect. The adverse effects of alternative C, however, would be a small component of the adverse cumulative impact.

**Section 106 Summary.** After applying the Advisory Council’s criteria of adverse effects (36 CFR 800.5 Assessment of Adverse Effects) the National Park Service concludes that implementation of alternative C would include moderate adverse impacts on archeological resources that could result in an adverse effect at some sites. National Park Service staff would work with the state historic preservation officer to prevent an adverse effect. Any adverse effects under section 106 would be mitigated according to the Secretary of the Interior’s *Standards and Guidelines for Documentation and Treatment of Historic Properties*. Impacts would be mitigated through the use of a memorandum of agreement with the state historic preservation officer and advisory council to counteract such adverse effects.

## ETHNOGRAPHIC RESOURCES

The ethnographic resources in Blue Ridge Parkway are sites, structures, objects, landscapes, and/or natural resource features that have cultural associations with local and regional communities and individuals. For the purposes of impact analysis, these ethnographic resources are identified in “Chapter 3: Affected Environment” of this document. Parkway ethnographic resources are primarily related to traditional

instrumental and vocal music, storytelling, dancing, and crafts.

## Methods and Assumptions for Analyzing Impacts

Impacts to ethnographic resources were evaluated by comparing projected changes resulting from the action alternatives (B and C) to those of the no-action alternative (A). The thresholds used to determine impacts on these resources are defined as follows.

**Negligible:** Impacts would be at the lowest levels of detection and barely perceptible. Impacts would neither alter resource conditions, such as traditional access or site preservation, nor alter the relationship between the resource and the associated group’s body of practices and beliefs. For purposes of section 106, the determination of effect would be no adverse effect.

**Minor:** Impacts would be slight but noticeable and would neither appreciably alter resource conditions, such as traditional access or site preservation, nor alter the relationship between the resource and the associated group’s body of beliefs and practices. For purposes of section 106, the determination of effect would be no adverse effect.

**Moderate:** Impacts would be apparent and would alter resource conditions or interfere with traditional access, site preservation, or the relationship between the resource and the associated group’s beliefs and practices, even though the group’s practices and beliefs would survive. For purposes of section 106, the determination would be adverse effect.

**Major:** Impacts would alter resource conditions. Proposed actions would block or greatly affect traditional access, site preservation, or the relationship between the resource and the associated group’s body of beliefs and practices to the extent that the survival of a group’s beliefs and/or practices would be jeopardized. For purposes of section 106, the determination would be adverse effect.



**Cumulative Impacts.** The Council on Environmental Quality regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives, including the no-action alternative.

Cumulative impacts were determined by combining the impacts of the alternatives with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Blue Ridge Parkway and, if applicable, the surrounding region.

### **Parkway-wide Actions Common to All Alternatives**

All ethnographic resources would be protected according to existing applicable federal laws and policies. Currently no traditional cultural properties (ethnographic resources listed in the national register, or that are eligible for listing) have been identified for the Blue Ridge Parkway. However, further Native American consultations should be alert to the possibility of unevaluated traditional cultural properties to be potentially eligible for listing. Ethnographic resources identified in chapter 3 *Affected Environment* illustrate that there is potential for the future identification of cultural properties that may be identified as ethnographic resources and/or traditional cultural properties.

The surveys and research necessary to determine the eligibility of ethnographic resources for listing in the national register of Historic Places, or for designating the Blue Ridge Parkway as a national historic

landmark, are a prerequisite for understanding the resource's significance, as well as the basis of informed decision making in the future regarding how such resources should be managed. Such surveys and research, as well as nominations to the national register or designation as a national historic landmark, would be a long-term beneficial impact to ethnographic resources.

The land protection management approach in all alternatives would provide long-term beneficial impacts on ethnographic resources through the acquisition of conservation easements and land from willing sellers, which would include added protection of sites or features of ethnographic resources and traditional access to them.

In all alternatives, ethnographic resources would benefit from parkway-wide partnerships, and there would be no adverse impacts from partnership management strategies to cultural resources. Beneficial impacts would result from engaging the public and partners in active preservation programs for ethnographic resources. One example of partnering might include inventory of ethnographic features and sites, or possibly oral history interviews that could be accomplished by local colleges or universities.

### **Alternative A—No-action**

**Parkway-wide.** No parkway-wide ethnographic resources have been identified.

### **Parkway Segments.**

*Segment 4: Highlands*—Under alternative A, continued partnering with local stakeholders would benefit the ethnographic resources in this area, including the Fox Hunters Paradise Ethnographic Site and the Saddle Mountain Union Church Baptismal Site, the Brinegar Cabin Complex, the Parkway Craft Center at Moses H. Cone Memorial Park, and the Folk Art Center. Partnering would increase awareness and understanding of these sites and would help direct parkway visitor use away from these sites that could otherwise

cause inadvertent damage to fragile ethnographic sites and their associated cultural activities and practices. Partnering would help preserve and protect these resources and would result in a long-term beneficial impact to ethnographic resources in this segment.

Proposed trail improvements in this segment under alternative A would be informed by cultural resource investigations of ethnographic resources in this area, allowing potential impacts to avoid areas of ethnographic resources. As a result, potential adverse impacts due to diminished access to these ethnographic sites and activities would be minimized, and would likely be local negligible to minor short-term adverse impacts.

*Segment 7: Pisgah*—Efforts to maintain vistas in this segment in alternative A would provide a long-term beneficial impact ethnographic resources in this segment, which are Devils Courthouse Overlook Waterrock Knob, Plott Balsams Overlook, Soco Gap Overlook, Big Witch Gap Overlook, Thomas Divide Overlook, and Raven Fork View. Maintaining the views and vistas associated with these sites and their viewsheds would preserve and protect the qualities of these resources' significant vistas.

The identified Devils Courthouse, Soco Falls, Big Witch Tunnel, and Raven Fork River ethnographic resources in this segment would not be impacted by activities under alternative A.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*Crabtree Falls*—Under alternative A, existing comfort stations would be upgraded in this area. The ethnographic site of Crabtree Falls identified within this recreation area would not be impacted by this proposed activity because the site is isolated from the location of the comfort stations, and activities associated

with the upgrades, such as temporary construction activities, would not be seen from the resource. As a result, no ethnographic resources would be impacted under alternative A.

*Peaks of Otter*—The ethnographic resource identified in this area is associated with the historical and ongoing Native American use of this area, which includes the Johnson Farm and Polly Wood's Ordinary. Changes proposed for comfort stations as well as some concession facilities at this recreation area under alternative A could result in adverse impacts to this ethnographic resource if associated construction activities result in reduced access to the resource, or prolonged noise disturbance during the period of construction activities. Such adverse impacts would be indirect to this ethnographic resource, and thus, would be negligible to minor, local, and short term for the duration of the proposed activities.

*Mabry Mill*—The ethnographic resource identified in this area is the Mabry Mill, which is a gathering site of cultural expression for musical, dancing, and storytelling performances. Changes proposed for comfort stations as well as some concession facilities at this recreation area under alternative A could result in adverse impacts to this site if associated construction activities result in reduced access to the site, or from prolonged noise disturbance during the period of construction activities. Such adverse impacts would be indirect to the ethnographic resources, and thus, negligible to minor, local, and short-term for the duration of the proposed activities.

*Craggy Gardens*—The ethnographic resource identified in this area is the Craggy Dome site, an open area associated with the Cherokee American Indians. Changes proposed for comfort stations as well as some concession facilities at this recreation area under alternative A could result in adverse impacts to this ethnographic resource if associated construction activities result in reduced access to the resource, or due to prolonged noise disturbance during the period of construction

activities. Such adverse impacts would be indirect to this ethnographic resource, and thus, would be negligible to minor, local, and short-term for the duration of the proposed activities.

**Cumulative Effects.** Over the years, ethnographic resources on both private and parkway lands have been vulnerable to inadvertent damage and vandalism. Inadvertent impacts would the loss of access to sites that prevent the practice of the beliefs, traditions, or other cultural values associated with the site, intentional or inadvertent vandalism by removing or damaging features or qualities that contribute to the sites' cultural importance, resulting in permanent adverse impacts of minor to major intensity.

Past, present, and future construction and agricultural practices on lands adjacent to the parkway and throughout the region lands have disturbed ethnographic resources, resulting in permanent, moderate to major adverse impacts to ethnographic sites outside of the parkway boundary.

As described above, implementation of the no-action alternative would result in both long-term beneficial minor short-term adverse impacts to ethnographic resources. The beneficial minor long-term adverse impacts of this alternative, in combination with the moderate to major adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate to major adverse cumulative impact to ethnographic resource. The adverse effects of the no-action alternative would be a small component of the adverse cumulative impact.

**Conclusion.** Alternative A would have long-term beneficial and negligible to minor short-term adverse impacts when considering the overall ethnographic resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local, site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above,

would result in long-term moderate to major adverse and some long-term beneficial cumulative effects. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** Alternative B involves enhanced beneficial impacts on the preservation of cultural resources through acquisition and the targeting of specific cultural resources to be acquired. This would be a long-term beneficial impact on ethnographic resources through added protection. The establishment of criteria for acquisition and protection would further enhance preservation of ethnographic resources for a long-term beneficial impact.

Although the emphasis for scenery conservation is on off-parkway views, the completion of the baseline evaluation would be beneficial to ethnographic resources to the extent that knowing condition and quality of historic scenic views would provide for informed decision making when working to preserve cultural landscapes and potentially associated ethnographic resources within the parkway. In addition, working more actively under alternative B would enhance opportunities to preserve historic off-parkway views and would be beneficial for the long term to ethnographic resources.

There would be generally beneficial impacts on ethnographic resources from an active and engaged interpretation and visitor services management program along the parkway. Ethnographic resources would be better protected when visitors understand and appreciate the importance of such resources in the area.

There could be negligible to minor local long-term adverse impacts to ethnographic resources from increased visitation and inadvertent vandalism or damage to significant features of ethnographic resources

as a result of increased use of certain areas where ethnographic areas exist.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 4: Highlands*—Under alternative B, continued partnering with local stakeholders would benefit the ethnographic resources in this area, including the Fox Hunters Paradise Ethnographic Site and the Saddle Mountain Union Church Baptismal Site, the Brinegar Cabin Complex, the Parkway Craft Center at Moses H. Cone Memorial Park, and the Folk Art Center. Partnering would increase awareness and understanding of these sites and would help direct parkway visitor use away from these sites that could otherwise cause inadvertent damage to fragile ethnographic sites and their associated cultural activities and practices. Partnering would help preserve and protect these resources, and would result in a long-term beneficial impact to ethnographic resources in this segment.

Proposed trail improvements in this segment under alternative B would be informed by cultural resource investigations of ethnographic resources in this area, allowing potential impacts to avoid areas of ethnographic resources. As a result, potential adverse impacts due to diminished access to these ethnographic sites and activities would be minimized, and would likely be local negligible to minor short-term adverse impacts.

*Segment 7: Pisgah*—Efforts to maintain vistas in this segment in alternative A would provide a long-term beneficial impact ethnographic resources in this segment, which are Devils Courthouse Overlook Waterrock Knob, Plott Balsams Overlook, Soco Gap Overlook, Big Witch Gap Overlook, Thomas Divide Overlook, and Raven Fork View. Maintaining the views and vistas associated with these sites and their viewsheds would preserve and protect the qualities of these resources' significant vistas.

The identified Devils Courthouse, Soco Falls, Big Witch Tunnel, and Raven Fork River ethnographic resources in this segment would not be impacted by activities under alternative B.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

*Peaks of Otter*—The ethnographic resource identified in this area is associated with the historical and ongoing Native American use of this area, which includes the Johnson Farm and Polly Wood's Ordinary. Changes proposed for comfort stations as well as some concession facilities and the longer visitor use season at this recreation area under alternative B could result in adverse impacts to this ethnographic resource if associated construction activities result in reduced access to the resource, or prolonged noise disturbance during the period of these activities. Adverse impacts would be minimized by increased monitoring and the presence of park staff that could protect the ethnographic resources in this area. Adverse impacts would be indirect to this ethnographic resource, and thus, would be negligible to minor, local, and short-term for the duration of the proposed activities.

*Mabry Mill*—The ethnographic resource identified in this area is the Mabry Mill, which is a gathering site of cultural expression for musical, dancing, and storytelling performances. Under alternative B, changes proposed for comfort stations, new concession facilities, or a new visitor contact station at this recreation area could result in adverse impacts if associated construction activities result in reduced access to the site or if construction activities cause prolonged noise disturbance that diminish the qualities of the Mabry Mill site as an ethnographic resource. Such adverse impacts would be indirect to the ethnographic resources, and thus, negligible to minor, local, and short-term for the duration of the proposed activities.

**Crabtree Falls**—Under alternative B, existing comfort stations, campgrounds, and concession stations would be upgraded in this area. The ethnographic site of Crabtree Falls identified within this recreation area would not be impacted by these proposed activities because the site is isolated from the location of the comfort stations, and activities associated with the upgrades, such as temporary construction activities, would not be seen from the resource. As a result, no ethnographic resources would be impacted under alternative B.

**Craggy Gardens**—The ethnographic resource identified in this area is the Craggy Dome site, an open area associated with the Cherokee American Indians. Upgrades proposed for comfort stations and new concession facilities at the campgrounds in this recreation area under alternative B could result in adverse impacts to the Craggy Dome ethnographic resource if associated construction activities result in reduced access to the resource, or prolonged noise disturbance during the period of construction activities. Such adverse impacts would be indirect to this ethnographic resource, and thus, would be negligible to minor, local, and short-term for the duration of the proposed activities.

**Cumulative Effects.** Over the years, ethnographic resources on both private and parkway lands have been vulnerable to inadvertent damage and vandalism. Inadvertent impacts would be the loss of access to sites that prevent the practice of the beliefs, traditions, or other cultural values associated with the site, intentional or inadvertent vandalism by removing or damaging features or qualities that contribute to the sites' cultural importance, resulting in permanent adverse impacts of minor to major intensity.

Past, present, and future construction and agricultural practices on lands adjacent to the parkway and throughout the region lands have disturbed ethnographic resources, resulting in permanent, moderate to major adverse impacts to ethnographic sites outside of the parkway boundary.

As described above, implementation of alternative B would result in both long-term beneficial minor short-term adverse impacts to ethnographic resources. The beneficial minor long-term adverse impacts of this alternative, in combination with the moderate to major adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate to major adverse cumulative impact to ethnographic resources. The adverse effects of alternative B would be a small component of the adverse cumulative impact.

**Conclusion.** Alternative B would have long-term beneficial negligible to minor short-term adverse impacts when considering the overall ethnographic resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in long-term moderate to major adverse and some long-term beneficial cumulative effects. However, because most of these impacts occurred in the past or now take place beyond the boundary of the parkway, this alternative's contribution to these effects would be small.

**Section 106 Summary.** After applying the Advisory Council's criteria of adverse effect (36 CFR 800.5 Assessment of Adverse Effects) the National Park Service concludes that implementation of this alternative would include moderate adverse impacts on ethnographic resources that could result in an adverse effect to ethnographic resources at some sites. National Park Service staff would work with the state historic preservation officer and advisory council to prevent an adverse effect. Any adverse effects under section 106 would be mitigated according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995)*.

### **Alternative C**

**Parkway-wide.** Maintaining vistas to capture the original intent of the parkway

designers would be a beneficial impact to ethnographic resources. However, the closure of some pull-offs where views have been substantially compromised could be a long-term minor to moderate local adverse impact if such closures prevent access to ethnographic resources or impact their features.

The conversion of some human-made water features to natural habitat would possibly cause some short-term adverse local minor impacts on ethnographic resources from any alteration that would occur. However, the restoration of natural habitat could be beneficial for the long term to ethnographic resources that are important to indigenous communities.

As in alternative B, the completion of the baseline evaluation under alternative C would be beneficial to ethnographic resources to the extent that knowing condition and quality of historic scenic views would provide for informed decision making when working to preserve cultural landscapes and potentially associated ethnographic resources within the parkway. In addition, working more actively would enhance opportunities to preserve historic off-parkway views and would be beneficial for the long term to ethnographic resources.

There could be minor local long-term adverse impacts to ethnographic resources from increased 12-month visitation and the possible use of ethnographic resources for the purposes of interpretive programs and activities.

**Parkway Segments.** Only those parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

*Segment 4: Highlands*—As under alternative B, in alternative C, continued partnering with local stakeholders would benefit the ethnographic resources in this area, including the Fox Hunters Paradise Ethnographic Site and the Saddle Mountain Union Church Baptismal Site, the Brinegar Cabin Complex,

the Parkway Craft Center at Moses H. Cone Memorial Park, and the Folk Art Center. Partnering would increase awareness and understanding of these sites and would help direct parkway visitor use away from these sites that could otherwise cause inadvertent damage to fragile ethnographic sites and their associated cultural activities and practices. Partnering would help preserve and protect these resources, and would result in a long-term beneficial impact to ethnographic resources in this segment.

Proposed trail improvements and the introduction of multiuse trails in this segment under alternative C would be informed by cultural resource investigations of ethnographic resources in this area, allowing potential impacts to avoid areas of ethnographic resources. As a result, potential adverse impacts due to diminished access to these ethnographic sites and activities would be minimized, and would likely be local negligible to minor short-term adverse impacts.

*Segment 7: Pisgah*—As in alternative B, efforts to maintain vistas in this segment in alternative C would provide a long-term beneficial impact ethnographic resources in this segment, which are Devils Courthouse Overlook Waterrock Knob, Plott Balsams Overlook, Soco Gap Overlook, Big Witch Gap Overlook, Thomas Divide Overlook, and Raven Fork View. Maintaining the views and vistas associated with these sites and their viewsheds would preserve and protect the qualities of these resources' significant vistas.

The identified Devils Courthouse, Soco Falls, Big Witch Tunnel, Raven Fork River ethnographic resources in this segment would not be impacted by activities under alternative B.

**Recreation Areas.** Only those parkway recreation areas that would have more specific impacts than those described under the parkway-wide and segment sections are described below.

**Peaks of Otter**—The ethnographic resource identified in this area is associated with the historical and ongoing Native American use of this area, which includes the Johnson Farm and Polly Wood’s Ordinary. Changes proposed for comfort stations, concession facilities, conversion of campsites to rental cabins, and the longer visitor use season at this recreation area under alternative C could result in adverse impacts to this ethnographic resource if associated construction activities result in reduced access to the resource, or prolonged noise disturbance during the period of these activities. Adverse impacts would be minimized by increased monitoring and the presence of park staff that could protect the ethnographic resources in this area. Adverse impacts would be indirect to this ethnographic resource, and thus, would be negligible to minor, local, and short-term for the duration of the proposed activities.

**Mabry Mill**—The ethnographic resource identified in this area is the Mabry Mill, which is a gathering site of cultural expression for musical, dancing, and storytelling performances. Changes proposed for comfort stations, new concession facilities, a new visitor contact station, and a new multiuse trail at this recreation area under alternative C could result in adverse impacts if associated construction activities result in reduced access to the site, or from prolonged noise disturbance during the period of construction activities that diminish the qualities of the Mabry Mill site as an ethnographic resource. Such adverse impacts would be indirect to the ethnographic resources, and thus, negligible to minor, local, and short-term for the duration of the proposed activities.

**Crabtree Falls**—Under alternative C, existing comfort stations, campgrounds, and concession stations would be upgraded in this area. The ethnographic site of Crabtree Falls identified within this recreation area would not be impacted by these proposed activities because the site is isolated from the location of the comfort stations, and activities associated with the upgrades, such as temporary construction activities, would not be seen from the resource. As a result, no

ethnographic resources would be impacted under alternative C.

**Craggy Gardens**—The ethnographic resource identified in this area is the Craggy Dome site, an open area associated with the Cherokee American Indians. Upgrades proposed for comfort stations and new concession facilities at the campgrounds in this recreation area under alternative C could result in adverse impacts to the Craggy Dome ethnographic resource if associated construction activities result in reduced access to the resource, or prolonged noise disturbance during the period of construction activities. Such adverse impacts would be indirect to this ethnographic resource, and thus, would be negligible to minor, local, and short-term for the duration of the proposed activities.

**Cumulative Effects.** Over the years, ethnographic resources on both private and parkway lands have been vulnerable to inadvertent damage and vandalism. Inadvertent impacts would be the loss of access to sites that prevent the practice of the beliefs, traditions, or other cultural values associated with the site, intentional or inadvertent vandalism by removing or damaging features or qualities that contribute to the sites’ cultural importance, resulting in permanent adverse impacts of minor to major intensity.

Past, present, and future construction and agricultural practices on lands adjacent to the parkway and throughout the region lands have disturbed ethnographic resources, resulting in permanent moderate to major adverse impacts to ethnographic sites outside of the parkway boundary.

As described above, implementation of alternative C would result in both long-term beneficial and minor short-term adverse impacts to ethnographic resources. The beneficial minor long-term adverse impacts of this alternative, in combination with the moderate to major adverse impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term moderate to major adverse cumulative impact to ethnographic resource. The adverse effects

of alternative C would be a small component of the adverse cumulative impact.

**Conclusion.** Alternative C would have long-term beneficial and negligible to minor short-term adverse impacts when considering the overall ethnographic resources of the parkway. Long-term beneficial impacts on these resources would continue to occur on a more local site-by-site level. Impacts of this alternative, combined with the impacts of other past, present, and reasonably foreseeable future actions described above, would result in long-term moderate to major adverse and some long-term beneficial cumulative effects.



# VISUAL RESOURCES (SCENERY AND VIEWSHED)

## INTRODUCTION

This analysis of the environmental consequences of alternatives A, B, and C on the visual resources of the Blue Ridge Parkway is based on the professional judgment of parkway staff, National Park Service planners and landscape architects, and other specialists. This analysis describes impacts of the management alternatives at primarily two different scales: a parkway-wide analysis, which describes the overall effect of broad parkway-wide strategies; and a parkway segment analysis, which looks at more site-specific impacts on certain parkway segments where conditions or trends vary from the rest of the parkway.

As introduced in the affected environment discussion, the visual resources being analyzed here are the scenic landscape areas viewed from parkway overlooks, vistas, and agricultural openings. Ninety-five percent of this scenery is land outside the parkway boundary in private or other public ownership. These scenic, historic, and natural features of the central and southern Appalachians are key elements of the Blue Ridge Parkway's purpose and significance, particularly the scenic driving experience.

## METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

This analysis looks at the effect of management strategies primarily related to scenery conservation, land protection, resources management and partnerships, on the quality of the visual resources viewed from parkway, primarily outside park boundaries. This analysis may overlap with the analysis of effects on the parkway's designed landscape, which is addressed within the cultural resources analysis section, and the analysis of visitor use and experience.

**Negligible:** Effects to the visual quality of the landscape would be at or below the level of

detection; changes would be so slight that they would not be of any measurable or perceptible consequence to the observer.

**Minor:** Effects to the visual quality of the landscape would be detectable, local, and would be small and of little consequence to the observer.

**Moderate:** Effects to the visual quality of the landscape would be readily detectable, local, with consequences over a relatively large area.

**Major:** Effects to the visual quality of the landscape would be obvious, with substantial consequences in the region.

## ALTERNATIVE A—NO-ACTION

### Parkway-wide

Designation of the parkway as a national historic landmark would place added emphasis on the special qualities of the parkway and its principal components, particularly within the parkway boundary. This would be a long-term minor regional improvement to the overall scenic quality of the parkway's visual resources, as the parkway is currently managed as an eligible resource. Continuing the parkway's moratorium on secondary road improvement projects would continue to have short- and long-term moderate beneficial local and regional impacts on visual resource quality. Limiting road improvements into the parkway has the associated effect of reducing adjacent subdivision growth proximate to the parkway and within the parkway's viewshed.

Park management of vistas and overlooks would continue to be guided by the Parkway Land Use Maps and management of the parkway as an eligible national historic landmark; however, some of these original windows to parkway scenery now overlook highly compromised landscapes outside the parkway boundary.

Under alternative A, scenery would be managed to enhance the scenic driving experience in keeping with the early plans and Parkway Land Use Maps developed from the 1930s through the 1950s. Within the park, every attempt would be made to maintain vistas as they were originally conceived, however, constraints from budget and personnel over time have caused the parkway to maintain fewer of the original views. Many of the overlooks have become overgrown and wooded. Other vista sites are wide open and overlooking views of subdivisions. This loss of parkway views detracts from the ideal scenery as envisioned by parkway designers, and would continue to be a local long-term adverse impact on the quality of visual resources.

The completion of the baseline evaluation of the parkway's current Scenery Conservation System would be beneficial at a local and regional level to protecting visual resources. Knowing the condition, quality, and desired conditions of off-parkway scenic views would provide park staff the ability to accomplish long-term informed decision making the length of the parkway. Guided by the Scenery Conservation System, NPS planners, landscape architects, realty specialists, and others would continue to work with other public agencies, private landowners, developers, and parkway partners to enhance the visual resources of the parkway through conservation easements, purchase from willing sellers, and partnerships. These activities would continue to have long-term local and regional beneficial impacts on visual resource quality viewed from parkway vistas, overlooks, and agricultural areas. This process would also help prioritize the vistas and overlooks to be open for viewing. There would, however, continue to be long-term moderate adverse impacts on the long-term integrity of off-parkway views because the program would continue to be reactive to opportunities that come to the attention of park staff.

An element of visual resource effect that is difficult to assess but could have substantial implications is the current status of the

parkway as a class II air quality designation. Increased regional air pollution over the years has substantially affected the quality of the views from the parkway, including visibility and damage to vegetation. Also, the parkway links the two class I designated national parks of Shenandoah and Great Smoky Mountains. The parkway's class II designation does not allow the parkway to comment on projects that could impact air quality conditions. Given that a fundamental purpose of the parkway is to provide for high quality scenery, continued inability of parkway management to have the authority to influence regional projects affecting air quality in the region would continue to be a long-term minor to moderate adverse impact on the overall visual resource conditions.

Vegetation management at vistas and overlooks to ensure quality scenery is a big parkway-wide undertaking during the growing season that is complicated by the problem of invasive flora becoming established in these disturbed sites. The parkway's continued management of invasive flora in a site-specific manner and only where it affects endangered species would result in continued difficulties for maintaining vista and overlook clearings and the quality of the viewshed. This kind of vegetation management would be a long-term minor beneficial impact on scenic quality.

### **Parkway Segments**

Only the parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segments 2, 3, and 4: Roanoke, Plateau, and Highlands.** These three segments of the parkway are, or have the potential for, the most substantial permanent loss of visual resource integrity along the parkway, especially of pastoral and agricultural views. While other parkway segments have added protection from proximity of U.S. Forest Service land, including cooperation between the parkway

and the U.S. Forest Service to mitigate the visual impacts of timber management, these three segments are bordered primarily by privately owned lands. Once primarily remote, rural, and agricultural, these segments are changing rapidly due to increases in population and development. This includes increasing difficulty of finding easement holders for the parkway's many agricultural easements. The parkway's current Scenery Conservation System program and partnerships and its moratorium on secondary road improvements would help provide long-term beneficial impacts on protecting these resources; however, the benefit is likely to be local and minor relative to the rate of growth in the region.

**Segments 5 and 7: Black Mountains and Pisgah.** There are approximately 80 miles combined within these two segments that are high-altitude areas of the parkway. The proximity of U.S. Forest Service lands provides substantial protection of the dramatic views of classic Appalachian mountain ridgelines. For the parkway, there are some ongoing conflicts between maintaining vistas to provide these exceptional views and managing for the protection of certain resources, including the northern flying squirrel. In general, current vista management continues to provide visitor access to the special scenic qualities of these high altitude views.

### Cumulative Effects

Under alternative A, the ongoing development of private lands throughout the region is causing increased impacts on the parkway's visual resources and the visitor's associated scenic driving experience. This has especially been the case around population centers such as the cities of Roanoke and Asheville. Types of development include residential homes, subdivisions, commercial businesses, and industry. For example, in Roanoke County there are 11 ongoing residential developments, totaling over 2,000 new homes, 6 new commercial developments, and associated plans for new roads and utilities.

The southern half of Watauga County where the parkway is located is being developed faster than the rest of the county. There are three developments of 1,800 units planned and there are plans to expand dining and shopping venues. This county is also planning commercial wind power projects that may be visible from the parkway. The growing trends in all of these types of developments are projected to continue, although the rate of change would be dependent on the condition of the economy. As a result, new developments and increasing population would create moderate long-term adverse impacts on parkway views at local and regional scales.

However, there are ongoing efforts by some of the surrounding counties to improve habitats and restore mountain scenery and pastoral landscapes. For example, Allegheny, Ashe, Avery, Watauga, Wilkes, and Yancey counties have, or are considering, voluntary easements for working farms. Also, the town of Waynesville has placed its 8,000 acre watershed into a conservation easement, which borders nine miles of the parkway. These kinds of efforts would provide for long-term minor to moderate beneficial impacts on the parkway scenery and views at a local scale.

These past, present, and reasonably foreseeable future actions would result in long-term moderate mostly adverse local and regional impacts and long-term minor to moderate beneficial local impacts on parkway visual resources. This alternative's contribution to these effects would be small, although the parkway's secondary road improvement moratorium would continue to contribute a considerable amount to helping protect visual resources on lands immediately adjacent to the park.

### Conclusion

There are current management activities that are contributing to the parkway's ongoing ability to increase protection of the parkway's visual resources. These include efforts to manage the parkway's internal landscape

elements consistent with the original Parkway Land Use Maps; managing the parkway as an eligible resource for national historic landmark designation; continuing the moratorium on secondary road improvements; and the planned completion of the baseline inventory of the parkway's Scenery Conservation System. Also, within available resources and staffing, the parkway maintains a network of working relationships with city, county, state, and federal agencies, and partnerships with private landowners, developers, and others to encourage scenery protection and learn about future plans for land use changes. As information becomes available, the parkway is able to react to opportunities to try to protect or mitigate changes to individual parcels through easements, acquisition from willing sellers, and other arrangements. These management activities have long-term minor to moderate beneficial impacts on helping protect the quality of the parkway's visual resources, especially at a local scale for areas adjacent to the parkway.

Given the extent of the viewshed along 469 miles of parkway, the inability of park management to track and react to all potential changes, the contributing effect of growth in many of the adjacent counties, and the ongoing county and city efforts to protect some visual resources, the cumulative impacts would be long-term, moderate, and adverse on visual resources on a local and regional scale and long-term, minor, and beneficial on a local scale. This alternative's contribution to these effects would be small, although the parkway's secondary road improvement moratorium would continue to contribute a considerable amount to visual resource protection on lands immediately adjacent to the park.

## **ALTERNATIVE B (NPS PREFERRED)**

### **Parkway-wide**

The establishment of parkway management zones, particularly the historic parkway zone and scenic character zone, would provide

long-term guidance for parkway managers to help achieve protection of historic and scenic parkway characteristics and desired conditions within the boundary. One purpose of the updated parkway land use maps would be to retain and maintain the existing vistas and overlooks to the greatest extent possible. Some reopened vistas would add to scenic opportunities; however, there would also be vistas where scenic easements could not or were not obtained that would remain open and display views that have lost their scenic characteristics. As a result, there would be both beneficial and adverse effects on the quality of scenic views which would be long-term minor to moderate and local. Also, when the at-grade crossings are replaced with new grade separation structures, there is potential for the new structures to modify views from the parkway, and therefore, sensitive facility design would be important to help mitigate that possibility.

For visual resources outside the parkway boundary, alternative B represents a shift from alternative A's primarily reactive approach to scenery conservation, to active identification and prioritization of views along the parkway for protection. Based on these priorities, the parkway would, on a site-specific project basis, actively seek out and work with landowners, and other entities as appropriate, to conserve this scenery. This approach would be enhanced by the establishment of land protection criteria that would evaluate the merits of properties when they become available. These actions would have long-term beneficial effects on the ability of the parkway to more effectively and efficiently identify, prioritize, and act on scenery conservation projects throughout the region. This would be a long-term moderate beneficial impact on the future integrity of the parkway's visual resources.

As part of alternative B, the current emphasis of alternative A to protect adjacent lands primarily for scenery and boundary improvements would shift to include protection of natural, cultural, and recreational resources. Especially as this addresses natural and cultural resources, and

alternative B's emphasis on advancing regional ecosystem health through active partnerships, visual resources are likely to be enhanced overall, which would be a long-term benefit to parkway scenery on a regional scale. However, this could also introduce additional competition for adjacent resource protection projects and take resources away from some scenery conservation projects, which would be a minor adverse local impact.

The establishment of the parkway as a class I air quality classification would provide the parkway greater input on projects that could impact air quality conditions in the local and regional areas. Currently class I air quality classification is usually assigned only to units of the national park system identified as "National Parks." Should this proposal become reality, the parkway would have substantial additional responsibilities on a regional level to track and comment on projects in the southwestern Virginia and northwestern North Carolina region. Given the complex dynamics of air pollution movement in this region of the United States, the parkway's added status would likely have mostly minor short- and long-term beneficial effects on the viewing quality of visual resources in the region.

In alternative A, where natural resource management currently is primarily reactive and species and site-specific in approach, the alternative B preferred alternative takes a much more strategic parkway-wide and regional approach to invasive flora and fauna management. This would improve the potential to enhance vista management and parkway viewsheds. This would likely be a long-term moderate beneficial improvement in the quality of parkway vista clearings, although it is difficult to know whether this would be at a local or regional scale.

### **Parkway Segments**

Only the parkway segments that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segments 2, 3, and 4: Roanoke, Plateau, and Highland.** These segments, due to their current and future vulnerability to loss of scenery, especially agricultural and pastoral landscapes, would sustain the greatest long-term benefit of alternative B's enhanced scenery, land protection, natural and cultural resource management, and partnership strategies. Although these actions would not reverse the inevitable population and development growth of these regions, these actions would contribute substantially to improved ability of the parkway staff to prioritize and work with landowners and others to take action to protect these rapidly disappearing views of rural landscapes of the central Appalachian highlands.

**Segments 5 and 7: Black Mountain and Pisgah.** In areas zoned Special Natural Resources, management of vistas above 4,000 feet would consistently be modified to improve habitat conditions for northern flying squirrels. As a result, views would be heavily thinned, rather than cleared out entirely. Spruce and fir trees would frame the views, which would highlight the uniqueness of the habitat. This would result in some diminishment of the ability to view scenery from specific overlooks. This would be a negligible to minor local adverse impact on scenery within this particular zone.

### **Cumulative Effects**

As discussed in alternative A, the ongoing development of private lands throughout the region is causing increased impacts on viewsheds associated with the parkway. This has especially been the case around population centers such as the cities of Roanoke and Asheville. Types of development include residential homes, subdivisions, commercial businesses, and industry. For example, in Roanoke County there are 11 ongoing residential developments, totaling over 2,000 new homes, 6 new commercial developments, and associated plans for new roads and utilities. The southern half of Watauga County, through which the parkway travels, is being developed faster than the rest

of the county. There are three developments of 1,800 units planned and plans to expand dining and shopping venues. This county is also planning commercial wind power projects that may be visible from the parkway.

The growing trends in all of these types of developments are projected to continue. As a result, new developments and increasing population in the region are creating more adverse impacts on parkway views. However, there are ongoing efforts by some of the surrounding counties to improve habitats and restore mountain scenery. For example, Allegheny, Ashe, Avery, Watauga, Wilkes, and Yancey counties have, or are considering voluntary easements for working farms. Also, the town of Waynesville has placed its 8,000-acre watershed into a conservation easement, which borders nine miles of the parkway. Also, Buncombe County is using conservation easements to protect lands adjacent to the parkway and is planning to replace a portion of its public transportation fleet with alternative fuel vehicles. These kinds of efforts would provide for long-term minor to moderate local beneficial impacts on parkway scenery and views.

These past, present, and reasonably foreseeable future actions would result in long-term moderate adverse local and regional impacts and long-term minor to moderate beneficial local impacts on visual resources. This alternative's contribution to these effects would be considerable and beneficial at both a local and regional scale.

## Conclusion

The preferred alternative takes a substantial step toward moving the parkway into a much more proactive role in visual resource management. This includes implementing zoning management inside the parkway boundary that includes historic parkway and scenic character zones, actively advancing a program of regional ecosystem health, prioritizing external views for protection, establishing criteria to evaluate the merits of lands available for acquisition, and actively

pursuing resource protection with a broader base of public and private entities. Also, establishing the parkway as a class I air quality classification would improve the parkway's ability to comment on local and regional projects that affect the quality of visual resources. All of these actions would combine to have a moderate impact on improving the parkway's ability to protect its visual resources.

Given the extent of the viewshed along 469 miles of parkway, the contributing effect of rapid growth in many of the adjacent counties, the improved ability of park management to be able to track and act on land protection opportunities, and ongoing land protection efforts by local entities, the cumulative impacts on visual resources would be long-term moderate adverse effects on visual resources at a regional scale. This alternative would contribute a considerable amount to reducing those adverse effects relative to alternative A.

## ALTERNATIVE C

### Parkway-wide

The establishment of parkway management zones, particularly the historic parkway zone and scenic character zone, would provide long-term guidance for parkway managers to help achieve protection of historic and scenic parkway characteristics and desired conditions. The creation of new parkway land use maps would increase the parkway's ability to shift some scenery management priorities from designed landscapes to natural and regional cultural (vernacular) landscapes, thereby replacing some of the lost pastoral and Appalachian agricultural landscapes. It would also allow for the closure of some views that have lost their scenic qualities and allow for new views to be developed that can be better protected. These actions would have mostly moderate long-term beneficial impacts on the quality of scenery within the parkway at a regional scale. The replacement of some at-grade crossings with new grade separation structures could result in the new structures

modifying views from the parkway, and therefore, sensitive facility design would be important to help mitigate that possibility.

For visual resources outside the parkway boundary, alternative C represents an even greater shift from alternative A's primarily reactive approach to scenery conservation. In this alternative, the parkway would not only collaborate with adjacent landowners, developers, and county officials to conserve priority scenery, but would also provide, with the assistance of partners, a leadership role to help establish long-term viewshed conservation strategies in the region. This would be a long-term beneficial effect on helping coordinate and maximize view protection in the 29-county region. This approach would be enhanced by the establishment of land protection criteria that would evaluate the merits of properties when they become available. Under this alternative, the parkway would have increased capability to seek regional partnerships for broader resource protection strategies, including heritage tourism projects. All of these actions would have long-term beneficial effects on the ability of the parkway to more effectively and efficiently identify, prioritize, and act on scenery conservation projects throughout the region. This would be a long-term beneficial impact on the future integrity of the parkway's visual resources.

As part of alternative C, the current emphasis of alternative A on protection of adjacent lands primarily for scenery and boundary improvements would shift to include protection of natural, cultural, and recreational resources. Especially as this addresses natural and cultural resources, and alternative C's emphasis on advancing regional ecosystem health through active partnerships, visual resources are likely to be enhanced overall, which would be a long-term benefit to parkway scenery on a regional scale. However, this could also introduce additional competition for adjacent resource protection projects and take resources away from some scenery conservation projects, which would be a minor adverse local impact.

The establishment of the parkway as a class I air quality classification would provide the parkway greater input on projects that could impact air quality conditions in the local and regional areas. Currently, class I air quality classification is usually assigned only to units of the national park system identified as "national parks." Should this proposal become reality, the parkway would have substantial additional responsibilities on a regional level to track and comment on projects in the southwestern Virginia and northwestern North Carolina region. Given the complex dynamics of air pollution movement in this region of the United States, the parkway's added status would likely have mostly minor short- and long-term beneficial effects on the viewing quality of visual resources in the region.

In alternative A, where natural resource management currently is primarily reactive and species and site-specific in approach, alternative C also takes a much more strategic parkway-wide and regional approach to invasive flora and fauna management. This would improve the potential to enhance vista management and parkway viewsheds. This would likely be a long-term beneficial improvement in the quality of views from the parkway, although it is difficult to know whether this would be at a local or regional scale.

### **Parkway Segments and Recreation Areas**

Only the parkway segments and recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segments 2, 3, and 4: Roanoke, Plateau, and Highlands.** These segments, due to their current and future vulnerability to loss of scenery, especially agricultural and pastoral landscapes, would sustain the greatest long-term benefit of alternative C's enhanced scenery, land protection, natural and cultural resource management, and partnership strategies. Although these actions would not

reverse the inevitable population and development growth of these regions, these actions would contribute substantially to improved ability of the parkway staff to prioritize and work with landowners and others to take action to help protect these rapidly disappearing rural landscapes of the central Appalachian highlands. These segments would benefit the greatest from the parkway's enhanced capability in alternative C to provide regional leadership for scenery conservation.

**Segments 5 and 7: Black Mountain and Pisgah.** In areas zoned special natural resources, management of vistas above 4,000 feet would consistently be modified to improve habitat conditions for northern flying squirrels. As a result, views would be heavily thinned, rather than cleared out entirely. Spruce and fir trees would frame the views, which would highlight the uniqueness of the habitat. This would result in some diminishment of the ability to view scenery from specific overlooks. This would be a negligible to minor local adverse impact on scenery within this particular zone.

**James River/Otter Creek Recreation Area.** Removal of Otter Lake and allowing it to transition back to a wetland to better support habitat for sensitive species would be an adverse impact on a designed scenic water feature of this recreation area. At a local scale, this would be a moderate adverse impact on the viewshed of this recreation area.

### Cumulative Effects

As discussed in alternative A, the ongoing development of private lands throughout the region is causing increased impacts on viewsheds associated with the parkway. This has especially been the case around population centers such as the cities of Roanoke and Asheville. Now the more rapid trend is retirees moving into the less developed county areas. Types of development include residential homes, subdivisions, commercial businesses, and industry. For example, in Roanoke County

there are 11 ongoing residential developments, totaling over 2,000 new homes, 6 new commercial developments, and associated plans for new roads and utilities. The southern half of Watauga County, through which the parkway travels, is being developed faster than the rest of the county. There are three developments of 1,800 units planned and plans to expand dining and shopping venues. This county is also planning commercial wind power projects that may be visible from the parkway.

However, there are ongoing efforts by some of the surrounding counties to improve habitats and restore mountain scenery. These kinds of efforts would provide for a long-term minor to moderate beneficial impacts on the parkway scenery and views. These past, present, and reasonably foreseeable future actions would result in long-term moderate, mostly adverse and regional impacts and long-term minor to moderate beneficial local impacts on visual resources. Impacts from the implementation of alternative C, added to these other impacts, would result in long-term moderate local adverse cumulative effects and long-term moderate local beneficial impacts. This alternative's contributions would be considerable to large in moderating adverse impacts and contributing to beneficial impacts at a local and potentially regional scale.

### Conclusion

Alternative C has the greatest potential of moving the parkway into a much more proactive role in visual resource management. This includes implementing zoning management inside the parkway boundary that includes historic parkway and scenic character zones, actively advancing a program of regional ecosystem health, prioritizing external views for protection, establishing criteria to evaluate the merits of lands available for acquisition, and the parkway becoming a regional leader in helping establish long-term strategies for parkway view conservation. Also, establishing the parkway as a class I air quality classification would improve the parkway's ability to



comment on local and regional projects that affect the quality of visual resources.

Given the extent of the viewshed along 469 miles of parkway, the contributing effect of rapid growth in many of the adjacent counties, the substantially improved ability of park management to be able to track and act on land protection opportunities, and ongoing land protection efforts by local entities, the cumulative impacts on visual resources would be long-term moderate adverse effects on visual resources at a regional scale. This alternative would contribute a considerable to large amount to reducing those adverse effects relative to alternative A.

# VISITOR USE AND EXPERIENCE

## INTRODUCTION

Analysis of Blue Ridge Parkway's visitor use and experience is based on the best professional judgment of parkway staff, NPS planners, and other specialists. This analysis describes impacts of the management alternatives at two different scales: a parkway-wide analysis, which describes the overall effect of broad programmatic actions, and a parkway segment and recreation area analysis, which looks at more site-specific impacts on the visitor use in these areas.

Analysis of the alternative strategies on the parkway's visitor use and experience has been organized by the impact topics listed below. Similar topics have been combined to limit redundancy and to present the analysis in the most understandable, concise means possible.

Impacts on Visitor Use and Experience include

- access and circulation
- recreational opportunities
- visitor orientation, information, education
- opportunities to experience natural soundscapes

## METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

Impacts on the visitor experience related to driving or bicycling in the parkway or parking at parkway sites were determined through an assessment of changes in access to parkway uses and the character of visitors' experiences while traveling the parkway. Beneficial impacts would result from actions that improve visitor access, circulation, and safety in the park. This includes access to activities, the range of available activities, or the enjoyment associated with driving or cycling the parkway. To reduce overlap in analysis, the scenery and viewshed-related impacts associated with the scenic driving experience

are addressed primarily in the separate visual resources impacts section.

The alternatives were evaluated qualitatively in terms of their effect on personal safety and security of personal property. Traffic-related safety concerns, including vehicular accidents, are addressed under the transportation impacts section of this document.

Visitor access and circulation refers to the ease and convenience of accessing the parkway and recreational areas by transit, automobile, bicycle, and/or walking. Implementation of the alternatives may result in changes in the mode of transportation used by travelers to and within the parkway area. The transit and multiuse trail impacts of the alternatives could affect the number of auto trips made to and within the parkway area. The auto trip impacts, in combination with the changes in parking supply and access modifications included in the alternatives, would cause impacts on traffic on parkway segments, including the potential for changes in traffic volumes and levels of service. Each alternative was evaluated for impacts on general access to the parkway and recreational area destinations by transit, automobile, bicycling, or walking.

Visitor length of stay and crowding related to each alternative was assessed to measure the potential effects on visitor satisfaction. A visitor use and carrying capacity study conducted in August 2002 and documented in the *Visitor Survey Study Completion Report for the Blue Ridge Parkway* (December 2002) determined the average length of stay and the preferred level of crowding for visitors at recreational areas during a typical summer weekend. Visitor satisfaction related to the traffic volumes and levels of service experienced while traveling along the parkway were also measured. Using the results of the 2002 study, expected effects to the visitor length of stay and visitor satisfaction at recreational areas and along the parkway was considered with the 2020 traffic volumes,

levels of service, and proposed modifications to the recreation areas under each alternative. The following impact thresholds have been developed for analyzing the effects of the alternatives on visitor experience.

**Negligible:** Visitors would not likely be aware of the effects associated with changes proposed for visitor use and enjoyment of park resources.

**Minor:** Visitors would likely be aware of the effects associated with changes proposed for visitor use and enjoyment of park resources. Impacts on visitor use, conflicts between different users or user groups, and/or visitor experience would be detectable, although the changes would be slight. Few visitors would be affected.

**Moderate:** Visitors would be aware of the effects associated with changes proposed for visitor use and enjoyment of park resources. Impacts on visitor use, conflicts between different users or user groups, and/or visitor experience would be readily apparent. Many visitors would be affected and would likely express an opinion about the effects. The impact on visitor safety would noticeably create additional hazards where they currently do not exist, or noticeably decrease existing personal safety hazards.

**Major:** Visitors would be highly aware of the effects associated with changes proposed for visitor use and enjoyment of park resources. Impacts on visitor use, conflicts between different users or user groups, and/or visitor experience would be readily apparent and have important consequences. The change in visitor use and experience would preclude future generations of some visitors from enjoying park resources and values or would greatly enhance their enjoyment. Most visitors would be affected and would likely express a strong opinion about the effects. The impact on visitor safety would be substantial either through the elimination of potential hazards or the creation of them.

## **ACCESS, CIRCULATION, AND SAFETY**

### **Alternative A—No-action**

**Parkway-wide.** Driving the parkway to view scenery is the number one recreational activity in the park. In addition to the quality of the visual resources inside and outside the parkway (see the Visual Resources analysis section), there are other factors that can affect the quality of the driving experience.

These factors include such things as traffic levels, traffic mix, and access to park services and programs which are addressed in this visitor experience analysis and in the traffic and transportation impacts section.

During peak season along the parkway, visitors have noted traffic congestion and difficulty finding a parking space as two of the parkway's biggest problems. Crowding at some overlooks and visitor centers were also noted as a capacity issue. Under alternative A, these conditions would not change and would worsen if visitation increases in the long term. Nonrecreational traffic would continue to increase with increased urban and rural residential growth, creating congestion along the roadway and conflicts that would diminish recreational visitors' driving experience of the parkway. For example, commuters are less interested in a leisurely and scenic driving experience and many are impatient of slower visitor drivers.

Despite the parkway's design as a limited-access roadway, it has a high number of parkway access points that add to the ease of local nonrecreational access. The parkway's ongoing moratorium of secondary road improvement projects in both Virginia and North Carolina would help limit adjacent growth of subdivisions and other development and help reduce levels of local, nonrecreational traffic growth and congestion on the parkway. Also, the growing popularity of RVs, motorcycling, and bicycling, adds to the mix of transportation types and speeds and contributes to frustrations and conflicts. At specific popular visitor sites, congestion and crowding issues would continue, although

most visitors who were surveyed felt that visitation would have to increase substantially at many sites before management action would be warranted. These trends would continue to cause long-term minor to moderate impacts on the visitor experience, especially during the peak season in the more urban areas along the parkway.

The parkway and other park roads would continue to be available to bicyclists and provide an outstanding cycling experience. In general, the parkway's limited access, lower traffic levels, and scenic setting provide for a quality cycling experience. This would continue to be a long-term beneficial impact on the quality of visitor's bicycling experience. However, the parkway was not built as a bicycling facility, and therefore, the narrowness of the roadway, lack of paved shoulders, foggy weather, and local road paving or other construction activities would continue to challenge cyclists and pose safety concerns as they share the road with motorists, especially in areas where traffic levels are increasing, especially nonrecreational traffic in the more urban areas of Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville. In these areas, especially with the growing popularity of larger bike touring groups, there are increasing conflicts between bicyclists and motorists. These ongoing conditions would likely continue to increase and the quality of the bicycling experience would be moderately adversely affected primarily during commuting times at a local level within those urban areas over the long term.

Short-term impacts would be related to disruptions that could result from ongoing maintenance and park operations activities that would continue to occur along the parkway, such as repaving the motor road and parking areas or repairing rock slides. These impacts would be detectable but slight and would affect visitors in specific areas. Therefore, short-term impacts would be adverse, local, and minor.

**Parkway Segments.** Only those parkway segments that would have more specific

impacts than those described under the parkway-wide section are described below.

*Segments 1 and 2: Ridge and Roanoke*—At some of the more isolated overlooks in these segments, illegal activities such as car break-ins, would likely continue to occur. The parkway would continue to manage visitors' personal safety using current law enforcement resources. Impacts related to personal safety could increase in this segment, resulting in adverse local long-term moderate impacts.

*Segment 3: Plateau*—Nonrecreational trips comprise a substantial amount of traffic between I-77 and Roanoke—49% in the Roanoke and Plateau segments. In visitor surveys, traffic congestion is an issue visitors have rated as one of the parkway's biggest problems. Parking and congestion problems could increase in this segment if visitation and urban growth increase. Impacts on the visitor driving experience and visits to popular destinations would be readily apparent; therefore, long-term impacts would be local, adverse, and moderate in this area.

*Segment 4: Highlands*—Parking areas at the Moses H. Cone Memorial Park (being addressed under a separate planning study) and Julian Price Memorial Park, both in this segment, exceed capacity during peak visitation. Park law enforcement staff also note parking problems during events at Brinegar Cabin at milepost 238.5 near Doughton Park. Similar to the Plateau segment, parking and congestion problems could increase in this segment if regional tourism, parkway visitation and suburban growth continue to increase, resulting in readily apparent traffic congestion impacts. The Highlands segment would experience the highest traffic volume forecasts and the levels of service would fall below the level for visitor acceptance. Long-term impacts would be adverse, local, and moderate.

*Segment 5: Black Mountain*—Linn Cove Viaduct is one of the most frequently visited areas in the park and visitors see more people than they prefer at this location. Parking and congestion problems could increase in this

segment if visitation and urban growth increase, resulting in readily apparent impacts. Long-term impacts would, therefore, be local, adverse, and moderate. The Craggy Gardens visitor contact station and hiking trails just north of the Asheville segment are another popular visitor area in which pedestrian and automobile conflicts occur.

**Segment 6: Asheville**—The Asheville community in particular would continue to experience issues related to overcrowding and traffic conflicts at entrance and exit ramps. Asheville has the parks only intersection that is rated at a level of service C, as described in the “Traffic and Transportation” section. This is likely a result of high recreational use mixed with commuter traffic. The Folk Art Center in this segment is one of the parkway’s most frequently visited areas. A mile and half south of the Folk Art Center another major facility, the Blue Ridge Parkway Visitor Center, opened in 2008. Recreationists also park vehicles in undesignated areas in this segment and the Asheville community wants developed parking and better trail access to various trails on and off of the parkway. Parking and congestion problems would increase if visitation and urban growth increase, as reflected by the desire for more access and activities in this segment. Impacts related to traffic congestion would be readily apparent, resulting in adverse local long-term moderate effects.

Several bicycle tour groups are active in this area. Some use a section of the parkway for a weekly ride and other sections are favored by cyclists as well. Safety is of paramount concern to cyclists in this congested area. Similar to Roanoke, the percentage of riders in Asheville may be higher than the rest of the parkway and conflicts between different users or user groups would be readily apparent. The impact on visitor safety may create the potential for additional visitor conflicts, resulting in adverse local long-term moderate impacts.

**Segment 7: Mt. Pisgah**—Visitors typically see more people than they prefer to at Graveyard Fields and Looking Glass Rock in this

segment. Even though these differences are the highest for the entire parkway, they are substantially less than what visitors expected to see at both locations. Therefore, local long-term adverse impacts related to crowding in this area would be detectable but slight, resulting in minor effects to visitor experience.

**Recreation Areas.** Only those recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

**Humpback Rocks**—Visitors have complained to park staff about limited parking at the Humpback Rocks recreation area. The current size of the picnic area, visitor contact station, and trailhead parking does not allow accommodation of higher use levels and more interpretive programs. This constraint could lead to additional crowding and access and circulation issues in the future, particularly if visitation increases. This situation is complicated by the lack of orientation at the north entrance of the parkway. This makes Humpback Rocks the first point of contact for visitors. Impacts of continuing current management practices on crowding and access and circulation would be adverse, local, long-term, and moderate.

**Peaks of Otter, Rocky Knob, Cumberland Knob**—Peaks of Otter Recreation Area (in the Ridge segment) experiences high local, nonrecreational use and is a destination for recreational users as well. Despite high levels of use, visitors saw fewer people than they preferred at Peaks of Otter. Similarly, visitors saw fewer people than they preferred at Rocky Knob in the Plateau segment and at Cumberland Knob in the Highlands segment. For these reasons, continuation of current management practices would likely have no measurable effect on crowding at these locations.

**Mabry Mill**—Park law enforcement staff have noted parking problems during the peak season at Mabry Mill and the amphitheater at milepost 213. Visitors have rated finding parking spaces one of the biggest problems of

their visit. Parking and congestion problems would likely increase because Mabry Mill is a popular and traditional destination for many visitors, especially on weekends. Access and circulation would be adversely affected as drivers circle the area looking for parking spaces. Therefore, long-term impacts would be adverse, local, and moderate in this area.

*Linville Falls*—Linville Falls in the Black Mountain segment is one of the parkway's most frequently visited areas. However, visitors' perception of crowding was low, despite this being a very popular, highly used recreation area with a heavily used trail to waterfalls and several recreational opportunities. Similar to Graveyard Fields in the Pisgah segment, visitors expected to see far more people than they preferred to see at Linville Falls. Therefore, local long-term adverse impacts related to crowding and access and circulation in this area would be detectable but slight, resulting in minor effects.

*Craggy Gardens and Mt. Pisgah*—Craggy Gardens, in the Black Mountain segment, and Mt. Pisgah, in the Pisgah segment, are also major recreational destinations and some of the most frequently visited areas along the parkway. Similar to the other popular areas previously mentioned, the potential for crowding and congestion could increase, affecting few to many visitors, with effects ranging from slightly detectable to readily apparent. The result would be long-term local adverse minor to moderate impacts.

**Cumulative Impacts.** Several counties and municipalities adjacent to the parkway have implemented or are planning to undertake a variety of recreation and tourism initiatives to grow local economies and improve quality of life. Several counties also anticipate substantial new residential developments. The greatest ongoing activity is development on private lands adjacent to the Roanoke, Highlands, and Asheville segments. These actions would draw more nonrecreational and recreational use overall, increasing congestion and demand for park services, thereby adversely affecting access and circulation,

crowding, and personal safety. In addition, many state and local plans call for widening of highways and improvements to transportation systems in certain areas of the parkway, particularly in Roanoke and North Carolina. Other counties also plan to construct new roads or implement deferred maintenance projects.

Several counties are establishing conservation easements to prevent conversion of lands to residential or commercial developments. Also, the large tracts of U.S. Forest Service lands along the Ridge, Black Mountain, and Pisgah segments provide long-term protection of adjacent lands from development. The easement projects would provide some beneficial effects related to access and circulation and crowding in local areas. The U.S. Forest Service lands contribute considerable long-term protection for those areas.

Some cities and counties along the parkway are developing greenway and bike path projects or promoting cycling in other ways. Roanoke is planning a 30-mile bicycle/pedestrian path from western Roanoke County to the parkway. Buncombe County may develop two greenway projects that would create a continuous trail system connecting three counties, five municipalities, the parkway, and the Appalachian Trail. As roadways experience increasing traffic, moving cyclists onto greenways would improve safety and potentially reduce conflicts. However, conflicts between cyclists and pedestrians using new pathways would likely occur and some cyclists may prefer to continue riding on roads.

These past, present, and reasonably foreseeable future actions would result in primarily long-term moderate, mostly adverse cumulative impacts at a regional scale to park road driving congestion, parking, and safety concerns, especially in the more urban and growing counties along the parkway. At a local level some of the greenway projects would help remove some traffic from the parkway, but the effect would be negligible to minor. Alternative A impacts, when combined with

these regional activities and trends, would also be primarily long-term, adverse, minor to moderate, and local. Alternative A would be mostly a small contributor to these effects, both adverse and beneficial.

**Conclusion.** Continued popularity of the parkway in general, and ongoing population growth and related development in the 29-county area, would result in increasing use levels along the parkway. Local commuter traffic in urban areas of the parkway would continue to impact visitor traffic, as commuters tend to drive at higher speeds and are less patient of visitor drivers. As a result, the quality of the recreational driving experience would continue to be adversely affected. Overall, long-term adverse impacts on the visitor experience would primarily result from increased local nonrecreational traffic, peak season crowding, limited parking at popular sites, conflicts between motorists and motorcyclists and bicyclists, and personal safety concerns at isolated overlooks (for traffic safety concerns, go to the Transportation section). These impacts would be mostly local, e.g., near urban areas where cycling is popular and commuter traffic is most prevalent and at specific overlooks where more isolated conditions create personal safety issues. Visitors are already aware of these issues as they have expressed concern about them. This awareness would continue or increase and impacts would be readily apparent. Visitor length of stay would not be measurably affected.

### **Alternative B (NPS Preferred)**

Driving the parkway to view scenery is the number one recreational activity in the park. In addition to the quality of the visual resources inside and outside the parkway (see the Visual Resources analysis section), there are other factors that can affect the quality of the driving experience.

These factors include such things as traffic levels, traffic mix, and access to park services and programs can affect the driving experience and are addressed in this visitor

experience analysis and in the traffic and transportation impacts section.

The management zones that would be applied to different areas of the parkway would affect crowding and access and circulation, with the recreation zone having the most potential to affect visitor experience. In recreation zones, visitors would have opportunities to participate in a range of structured and self-guiding recreational, interpretive, and educational opportunities in a mostly natural setting where some visitor services are available. Under alternative B, just over 7,750 acres parkway-wide—approximately 9.4 % of the parkway—would be zoned recreation to enhance outdoor recreational opportunities by accommodating a wider range of trail-based recreational activities and/or increased use. Recreational opportunities would focus on the outdoors and include organized group programs, self-guiding interpretation, nature observation, picnicking, hiking, backpacking, viewing natural and cultural resources, photography, exploring, and backcountry camping.

Additional campsites, picnic areas, restrooms, and interpretive media would likely attract more visitors and increase visitation along the parkway. Adding and enhancing these recreational opportunities would increase length of stay where they are provided, which could have adverse effects on mostly peak season crowding, congestion, and parking at affected recreation areas. Expanding visitor services from a six-month to a nine-month visitor season would also draw more visitors to the parkway, but primarily during the shoulder seasons of spring and fall. This dispersed time frame would result in no measurable impact on visitor congestion or parking concerns.

Providing overflow parking would help lessen crowding at popular areas and allow for longer stays, alleviating some of the adverse impacts that could result from increased visitation. Improving visitor orientation services at the underserved north and south parkway entrances would slightly improve visitor circulation by offering information in

advance to help visitors plan their visit and avoid frequently crowded areas. Replacing at-grade crossings with new grade separation structures would beneficially affect visitors' driving experience by separating recreational visitors from local commuter traffic—an issue that has frustrated visitors and adversely affected access, circulation, and traffic safety, particularly near urban areas. Where grade separations without access are constructed, parkway commuter traffic would also likely decrease. Also, the parkway's ongoing moratorium of secondary road improvement projects in both Virginia and North Carolina would help limit adjacent growth of subdivisions and other development and further contribute to reduced levels of local, nonrecreational traffic growth and congestion on the parkway. The overall effect of these beneficial impacts would help limit the adverse impacts that may result from increased traffic and visitation.

Overall, actions that would increase visitation, such as additional recreational opportunities or lodging capacity, as well as the improvement of campground services, additional picnic areas, restrooms, and interpretive media, would adversely affect crowding and access and circulation parkway-wide. Management actions to alleviate these adverse conditions, including providing overflow parking and new grade separation structures, would have beneficial effects to recreational visitors. Thus, impacts on crowding and access and circulation, would be adverse and beneficial, parkway-wide, long-term, and range from minor to moderate, depending on the area of the parkway.

The parkway and other park roads would continue to be available to bicyclists and provide an outstanding cycling experience. In general, the parkway's limited access, lower traffic levels, and scenic setting provide for a quality cycling experience. This would continue to be a long-term beneficial impact on the quality of visitor's bicycling experience. However, the parkway was not built as a bicycling facility, and therefore, the narrowness of the roadway, lack of paved shoulders, foggy weather, and local road

paving activities would continue to challenge cyclists and pose safety concerns. Cyclists share the road with motorists, especially in areas where traffic levels are increasing such as commuter traffic in the more urban areas of Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville. The proposals to construct grade separation structures at some locations along the parkway would have a long-term beneficial impact on helping manage commuter traffic levels in some locations. This would likely help improve safety and the bicycling experience at local areas along the parkway.

No changes to visitor safety in terms of emergency response time would result in the long term from expanding some visitor services from a six-month to a nine-month visitor season because law enforcement staff are all permanent full time employees and no seasonal staff is used. Short-term impacts would be related primarily to construction activities, such as building grade separated structures and overflow parking, as well as conducting ongoing maintenance activities. These impacts would be readily apparent and could affect many visitors in specific areas, resulting in adverse local moderate effects. Mitigation measures, such as implementing a traffic control plan, would reduce adverse impacts on minor where construction activities would occur.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide section are described below. As previously mentioned, approximately 9.4% of the parkway would be zoned recreation parkway-wide. When applied to all recreation areas, this percentage increases to approximately 21% under alternative B. The majority—52%—of the parkway's recreation areas would be zoned natural.

*Segments 1 and 2: Ridge and Roanoke—* Under this alternative, modifications would be made to the landscaping of remote overlooks to improve visibility of parked cars by passing traffic. These modifications would be slightly detectable, resulting in a beneficial



local long-term minor impact on visitors' personal safety.

*Segments 3 and 5: Plateau and Black Mountain*—Providing overflow parking would help alleviate crowding at popular areas in both segments. Nonrecreational trips also constitute a large percentage of traffic in the Plateau segment. Replacing at-grade crossings with new grade separation structures would help separate recreational visitors from local commuter traffic in this segment. The overall results would be beneficial, local, long-term, and moderate, as visitors would be aware of the changes, which would be readily apparent.

*Segment 4: Highlands*—The traffic and parking congestion problems in this segment would benefit from the overflow parking and grade separation structures. Impacts would be beneficial, local, long-term, and moderate for the same reasons described for the Plateau segment.

*Segment 6: Asheville*—Asheville in particular experiences overcrowding issues and has the parkway's only level of service C intersection. Implementing additional overflow parking at trailheads would be of particular benefit in this segment given its large urban setting and popularity of attractions, such as the Folk Art Center and Blue Ridge Parkway Visitor Center. Formalized parking would improve the flow of vehicles getting on and off the road, improving safety. Visitors would be aware of these readily apparent changes, resulting in beneficial local long-term moderate impacts.

*Segment 7: Pisgah*—Dispersing visitors and managing crowding conditions throughout the parkway, as well as developing overflow parking, would help alleviate congestion at Graveyard Fields and Looking Glass Rock in this segment. Impacts would be beneficial, local, long-term, and minor to moderate; changes would be slightly or readily detectable, depending on the season and day of week.

**Recreation Areas.** Only those recreation areas that would have more specific impacts

than those described under the parkway-wide section are described below

*Humpback Rocks, Crabtree Falls*—Under this alternative, the parkway would allow for and accommodate future increases in demand for traditional recreational activities at these areas and visitors would be expected to have modest to high contact with others at both locations. The actions proposed under this alternative would help proactively manage for crowding and access and circulation issues in the future, particularly at Humpback Rocks, where visitors have complained about parking. Trails would be improved and possibly more developed at Humpback Rocks to accommodate future increases in use levels and programs, likely increasing length of stay. Long-term impacts would be beneficial, local, and minor, as these changes would be detectable but slight compared to existing conditions. Developing trails without expanding parking would cause crowding here.

*James River/Otter Creek, Smart View, Cumberland Knob, Linville Falls*—Similarly, the parkway would allow for and accommodate future increases in demand for traditional recreational activities at these areas as well. Providing new recreational activities would result in increased length of stay. The contact station at James River/Otter Creek would be converted to a shelter, with no measurable impact on orientation, and thus, the driving experience, as this station is underused and this recreation area was not identified as a primary destination or as experiencing crowding or circulation issues.

Providing additional trail links at James River/Otter Creek, restoring the visitor contact station and providing additional visitor services at Cumberland Knob, and improving trails at Linville Falls could increase future visitation and length of stay at these areas, potentially affecting access and circulation and crowding issues. Expanding the visitor season at James River/Otter Creek to nine months would potentially spread out local use. Altogether, the long-term impacts related to these issues would be adverse, local,

and minor, as these changes would be detectable but slight.

**Peaks of Otter**—Peaks of Otter already experiences high local and recreational use. This would increase further under this alternative because campground improvements would be substantial, including providing rental cabins, RV hookups, and redesign of some of the campground to accommodate larger RVs. This is likely to increase RV traffic on the parkway and visitor activity in the park. However, current high use at this area is not perceived as a crowding problem. Also, the visitor use season increase to nine months would help spread out local visitor use. Consequently, these improvements would likely have negligible to minor local adverse impacts on access and circulation.

**Rocky Knob**—The small visitor contact station in this area would be converted to a trailhead shelter once a new visitor contact station is established at Mabry Mill. Because this station was originally designed as a gas station, it is inadequate as a visitor contact station. This change would result in no measurable impact on visitors.

Upgrades to the campground, including water and electrical hookups for RVs, would likely increase the use levels of this campground. The Rockcastle Gorge trail system would be upgraded and trailhead staging would be provided. These improvements could result in increased visitation and length of stay, but the parking improvements near the backcountry campsite would help alleviate crowding and access and circulation issues. Currently, visitors see fewer people than they prefer to at Rocky Knob, indicating that crowding is not a problem. Therefore, no measurable congestion or parking impacts are anticipated.

**Mabry Mill**—Virginia Secondary Road 603 (VA 603) would be relocated to improve the safety of visitors who have to cross this road from the overflow parking area. This would be a minor local beneficial effect on visitor safety. The potential development of a new restaurant and a new visitor contact facility, as

well as a redesign of pedestrian circulation and waysides, would add to visitor interest and demand at an already popular site, resulting in additional crowding and parking demand. Careful location and design of these facilities and accompanying parking would help mitigate the additional crowding. Also, increasing this site's visitor season from six to nine months may help disperse some of the crowding, because much of the visitation is repeat local use. Therefore, long-term impacts would be primarily local, adverse, and minor.

**Blue Ridge Music Center**—Expanding information and orientation capabilities and park participation in heritage tourism projects generally would not result in any measurable change to visitor access, circulation, and parking. Impacts would be adverse, local, long-term, and negligible to minor. However, public awareness of, and interest in, this relatively new venue on the parkway continues to grow in popularity. The parkway would need to monitor this growth and related impacts on on-site circulation and parking and be prepared for adjusting management accordingly.

**Julian Price Park**—At Julian Price Park, visitor services would be enhanced. The redesign and upgrades to accommodate RV campers would potentially increase campground use levels and length of stay. Recreational vehicle usage of the parkway would likely increase at a local level but would be dispersed.

**Craggy Gardens**—Closing the trail to Craggy Pinnacle and opening a new formal trail to Craggy Dome may shift some visitor use and parking to another, less used pullout. This would be a negligible to minor beneficial impact on parking conditions.

**Mt. Pisgah**—Campground service upgrades, such as showers at comfort stations and water and electrical hookups for RVs, would increase the popularity of the campground and potentially add to visitor use levels. However, there would be fewer RV sites compared to alternative A because of reduction of campground size. Therefore, long-term impacts on access and circulation

would likely be local, adverse, and negligible to minor.

**Cumulative Effects.** Several counties and municipalities adjacent to the parkway have implemented or are planning to undertake a variety of recreation and tourism initiatives to grow local economies and improve quality of life. Several counties also anticipate substantial new residential developments. The greatest ongoing activity is development on private lands adjacent to the Roanoke, Highlands, and Asheville segments. These actions would draw more nonrecreational and recreational use overall, increasing congestion and demand for park services, thereby adversely affecting access and circulation, crowding, and personal safety. In addition, many state and local plans call for widening of highways and improvements to transportation systems in certain areas of the parkway, particularly in Roanoke and North Carolina. Other counties also plan to construct new roads or implement deferred maintenance projects.

Several counties are establishing conservation easements to prevent conversion of lands to residential or commercial developments. Also, the large tracts of U.S. Forest Service lands along the Ridge, Black Mountain, and Pisgah segments provide long-term protection of adjacent lands from development. The easement projects would provide some beneficial effects related to access and circulation and crowding in local areas. The U.S. Forest Service lands contribute considerable long-term protection for those areas.

Some cities and counties along the parkway are developing greenway and bike path projects or promoting cycling in other ways. Roanoke is planning a 30-mile bicycle/pedestrian path from western Roanoke County to the parkway. Buncombe County may develop two greenway projects that would create a continuous trail system connecting three counties, five municipalities, the parkway, and the Appalachian Trail. Several bicycling tour groups are active along the parkway, particularly in Roanoke and

Buncombe County, and bicycle use is increasing. Along the Highlands and Black Mountain segments of the parkway, the High Country Council of Governments has and is preparing road cycling maps of its counties. Watauga County is also planning land acquisition for greenways and bike trails. As roadways experience increasing traffic, moving cyclists onto greenways would improve safety and potentially reduce conflicts. However, conflicts between cyclists and pedestrians using new pathways would likely occur and some cyclists may prefer to continue riding on roads.

The parkway's improved scenery conservation, land protection program, and partnership activities would be beneficial in reducing some of this adjacent development and associated traffic, as would continuation of the parkway's moratorium on secondary road improvements and construction of some grade separation structures. Also, improving parking and actions to disperse some uses would help limit the increases in visitation anticipated with the implementation of alternative B, with its 9.4% of recreation zoning and improved trail, camping, lodging, and interpretive opportunities.

These past, present, and reasonably foreseeable future actions at would result in primarily long-term moderate, mostly adverse cumulative impacts on a regional scale to parkway congestion, parking, and safety concerns, especially in the more urban and growing counties along the parkway. Alternative B actions, when combined with these regional changes, would be result in primarily adverse minor to moderate local long-term impacts on access, circulation, and safety. The contribution of this alternative would be moderate, both adverse and beneficial.

**Conclusion.** Access and circulation would continue to be affected by growth in the surrounding counties and increased popularity of the park. This increased popularity would be from the additional recreational opportunities provided, including the zoning of 9.4% of the parkway as

recreation zone. These opportunities would increase visitation to the parkway and increase length of stay in many recreation areas. Providing additional overflow parking, providing a multiuse trail in the Highlands segment, building at-grade road separation structures, and improved land protection and partnership efforts would be beneficial and help to moderate some of this potential growth and resultant congestion. Overall, long-term adverse impacts on the visitor experience would primarily result from increased local nonrecreational traffic, peak season crowding at popular sites, and continuing conflicts between motorists and motorcyclists and bicyclists. These impacts would be mostly local, e.g., near urban areas where cycling is popular and commuter traffic is most prevalent.

Short-term impacts would be related primarily to construction activities, such as during the building of grade separated structures and overflow parking, as well as conducting ongoing maintenance activities. With mitigation measures, these impacts would be adverse, local, and minor. Parkway-wide, actions that would increase visitation under this alternative would adversely affect crowding and access and circulation. Management actions to alleviate these impacts would have beneficial effects. Thus, impacts on crowding and access and circulation, as well as the driving experience, would be long-term, minor to moderate, both adverse and beneficial.

### Alternative C

**Parkway-wide.** Under alternative C, the parkway-wide strategy would be to maintain more flexibility of the design and function of the recreation areas and infrastructure, especially in the visitor services zone, to adapt to changing visitor use needs and operational efficiency. The visitor services zone would help concentrate and enhance visitor facilities and better enable the parkway to address crowding and access and circulation issues on a case-by-case basis. For example, 662 acres, 1% of the park, would be zoned as visitor

services under alternative C, compared to 356 acres, or 0.4%, under alternative B. Also, compared to alternative B, more than 6,000 additional acres would be zoned natural, which would help enhance opportunities for more solitude and backcountry recreation.

The concentrated visitor services areas would provide a designed setting that supports moderate to high levels of use, including a variety of visitor services and overnight accommodations within easy access from the parkway. Recreational opportunities in these areas could include dining, lodging, camping, walking, bicycling, picnicking, shopping, scenic viewing, park special events, interpretive programs, and guided walks. Five campgrounds would be substantially upgraded and redesigned to better accommodate RV campers. In general, these improved amenities would potentially increase the length of stay in these areas, especially campers; however, some concession services that lose economic viability may close, reducing some services and visitation. In general, it is anticipated most visitor activities would remain close to these amenities. Improvements of some of the day use facilities may help make some uses, like restroom stops, more efficient and reduce length of visit.

The resulting impacts of these improvements on access and circulation would be beneficial, especially for RV campers, and adverse, as length of stay may increase, affecting circulation and parking congestion. Also, road segments servicing these campgrounds would likely see an increase in RV traffic that would be local and dispersed. On a parkway-wide basis, these effects would range from minor to moderate, depending on the location, type, degree of change, and number of visitors affected.

Expanding visitor services from a 6-month to a 12-month visitor season at a few recreation areas would potentially attract more visitors to the parkway, such as heritage tourism visitors, but over a dispersed time frame, resulting in no adverse impact on crowding and access and circulation and potentially encouraging

more dispersed local use because of extended time frames for access.

Improving orientation and information services at the four major parkway entrances, including the north, south, Roanoke, and Boone/Blowing Rock areas, could improve access and circulation parkway-wide. By offering these services as or before visitors enter the parkway, visitors could learn about and plan their visit to the parkway and potentially help disperse use away from traditionally crowded peak season sites. Compared to alternative A, where no new orientation services would be provided, long-term impacts would be beneficial, parkway-wide, and minor to moderate, as most recreation visitors using the parkway access it through one of these areas.

Replacing at-grade crossings with new grade separation structures would beneficially affect visitors' driving experience in the long term by separating recreational visitors from local nonrecreational traffic and where grade separations without access are constructed commuter traffic would also likely decrease. The change would be readily detectable, more so in areas where there are numerous at-grade secondary roads and near urban areas where local traffic use is high. These impacts would be local and moderate.

Extending local mass transit services, such as public and private shuttle systems, to parkway destinations from nearby urban areas, would provide alternative transportation to some parkway visitor facilities, helping to alleviate parking congestion at popular sites. Alternative transportation would also result in fewer private vehicles on the parkway, which would improve access and circulation, particularly near large urban areas such as Roanoke and Asheville. Impacts would have beneficial local long-term minor impacts on overall traffic congestion and parking.

The parkway and other park roads would continue to be available to bicyclists and provide an outstanding cycling experience. In general, the parkway's limited access, lower traffic levels, and scenic setting provide for a

quality cycling experience. This would continue to be a long-term beneficial impact on the quality of visitor's bicycling experience. However, the parkway was not built as a bicycling facility, and therefore, the narrowness of the roadway, the lack of paved shoulders, foggy weather, and local road paving activities would continue to challenge cyclists and pose safety concerns as they share the road with motorists, especially in areas where traffic levels are increasing, especially commuter traffic in the more urban areas of Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville. The proposals to construct grade separation structures at some locations along the parkway would have a long-term beneficial impact on helping manage commuter traffic levels in some locations. This would likely help improve safety and reduce conflicts a local area along the parkway.

No changes to visitor safety in terms of emergency response time would result in the long term from expanding visitor services from a 6-month to a 12-month visitor season at select locations because law enforcement staff are all permanent full time employees and no seasonal staff is used.

Similar to alternative B, short-term impacts would be related primarily to construction activities, such as building grade separated structures and separate multiuse paths, as well as conducting ongoing maintenance activities. With mitigation measures, these impacts would be adverse, local, and minor where construction activities would occur.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide section are described below.

*Segments 1, 2, 4, and 6: Ridge, Roanoke, Highlands, and Asheville*—Under alternative C, the parkway would pursue development of four paved multiuse trails parallel to, but separate from, the parkway in the Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville areas. These trails would range from about 11 to 15 miles in length. As noted

under alternative A, cycling is popular in these areas of the parkway and conflicts between cyclists and motorists do occur and may be increasing. Local planning departments encourage use of multiuse paths for cyclists and many motorists are in favor of them. Providing a separate path that cyclists could use would help alleviate some roadway traffic congestion and conflicts between cyclists and motorists. However, many cyclists do not like to use paths and some would continue to use the parkway and mix with motorists. Pedestrian and cyclist conflicts could occur on the new paths, which could impact the quality of the experience and result in congestion. Depending on subsequent use levels of these paths, some to many local and repeat visitors would be aware of the changes and decreases in conflicts between different user groups would be readily apparent, affecting some to many visitors in a local area. Therefore, these impacts would be moderate.

Also, a relatively long distance paved trail would be a new attraction to which some mostly local visitors would drive to and park in order to bicycle these paths. This would potentially increase parking congestion and length of stay. Long-term impacts would generally be beneficial and local and minor to moderate by helping to increase safety and decrease bicyclist-motorist conflicts and congestion along these sections of the parkway.

Some pullouts would be substantially redesigned to enhance visibility of parking areas to passing traffic to reduce illegal activities. These land form and vegetation modifications would be detectable and readily apparent, noticeably decreasing existing personal safety hazards in this segment. The result would be a beneficial local long-term moderate impact on personal safety.

**Segments 3 and 4: Plateau and Highlands**—Replacing at-grade crossings with new grade separation structures would beneficially affect visitors' driving experience in the long term by separating recreational visitors from local nonrecreational traffic and where grade separations without access are constructed

commuter traffic would also likely decrease. The overall impacts would be beneficial, local, long-term, and moderate.

**Segment 4: Highlands**—As described under alternative A, parking is a problem at Moses H. Cone Memorial Park, Julian Price Memorial Park, and Brinegar Cabin. Under this alternative, no specific actions would address these issues. However, parking issues for the Moses H. Cone Memorial Park are being addressed under a separate management planning project. The presence of a multiuse path would be an additional attraction for campers and day users, adding to length of stay and potential parking congestion. The multiuse path would help reduce the number amount of cyclists on the road and the potential for conflicts between motorists and cyclists. Parking and crowding problems could increase in this segment if visitation and urban growth increase, in turn affecting access and circulation, resulting in long-term local adverse moderate impacts. Some of these impacts would be mitigated slightly by providing visitor orientation services in the Boone/Blowing Rock area. This would help visitors better plan their visit and potentially avoid congested parkway areas.

**Segment 5: Black Mountain**—As described under alternative A, Linn Cove Viaduct is a popular and crowded attraction. Under this alternative, no specific actions would address these issues. Parking and crowding problems could increase in this segment if visitation and urban growth increase, affecting access and circulation, resulting in long-term local adverse moderate impacts.

**Segment 6: Asheville**—Providing designated overflow parking at trailheads would be of particular benefit in this segment given its large urban setting and popularity of attractions, such as the Folk Art Center and Blue Ridge Parkway Visitor Center. This would help eliminate illegal parking along the parkway and associated impacts on traffic flow. Visitors would be aware of these readily apparent changes, resulting in beneficial local long-term moderate impacts.

Also, sites along the parkway near Asheville would be added to a transit system with the city of Asheville. This would help reduce traffic from the parkway and provide additional opportunities for residents and visitors to experience the parkway, especially for those who cannot drive. This would be a minor long-term local beneficial impact on parkway access and circulation opportunities for the Asheville area.

**Segment 7: Mt. Pisgah**—Visitors typically see more people than they prefer to see at Graveyard Fields and Looking Glass Rock in this segment. Just as in alternative B, developing overflow parking would help alleviate congestion at Graveyard Fields and Looking Glass Rock in this segment. Impacts would be beneficial, local, long-term, and minor to moderate; changes would be slightly or readily detectable, depending on the season and day of week.

**Recreation Areas.** Only those recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

**Humpback Rocks**—Increasing the capacity of the visitor contact station would better accommodate current and future visitor use levels and improve current congestion problems and visitor experience. This would help support potential additional use from linking hiking trails with U.S. Forest Service and Sherando Lake facilities and development of a multiuse path. In Waynesboro, the parkway section most commonly used by cyclists is from milepost 0 to the intersection with VA 664 at milepost 13.7 (DEA 2005). This route would take cyclists through the Humpback Rocks recreation area. Creating this path would likely increase length of stay. Long-term impacts would be mostly beneficial, local, and minor to moderate, as these changes would be detectable compared to existing conditions. Developing trails without expanding parking would cause crowding here.

**James River/Otter Creek**—The trail between the restaurant and lake in this area may be

improved and expanded for future multiuse. Impacts related to creating a separate path for cyclists and other visitors would be adverse and beneficial, local, long-term, and moderate.

**Peaks of Otter, Smart View, Linville Falls, Crabtree Falls**—The parkway would manage the natural zone acreage for low-level visitor use and visitors would be expected to have lower levels of contact with each other. Peaks of Otter experiences high local and recreational use, although visitors have not indicated that this is a problem. Focusing most use and activity in the visitor services zone and managing for low-level use in the natural zone could prevent potential future crowding issues. Redesign of some of the campgrounds at Peaks, Linville, and Crabtree to accommodate larger RVs would attract additional visitors and increase dispersed levels of RV traffic on the roadway. This would be both adverse and beneficial, local, long-term, and moderate depending on visitor preferences.

**Cumberland Knob**—Providing additional visitor services at Cumberland Knob, and improving trails at Linville Falls could increase future visitation and length of stay at these areas, resulting in local minor adverse impacts on circulation and parking.

**Mabry Mill**—Virginia Secondary Road 603 (VA 603) would be relocated or closed to improve the safety of visitors who have to cross this road from the overflow parking area. This would be a minor local beneficial effect on visitor safety. The comprehensive redesign of pedestrian circulation and waysides would add some slight increase in visitor interest, especially by repeat visitors. This may initially cause some increase in demand at this already popular site, resulting in additional crowding and parking demand for the short term. Also, increasing this site's visitor season from 6 to 12 months may help disperse some of the crowding, because much of the visitation is repeat local use. Therefore, long-term impacts would be primarily local, adverse, and minor.

Also under alternative C, the parkway would investigate development of a multiuse trail between Mabry Mill and the nearby community of Meadows of Dan. Mabry Mill is a popular and traditional destination for many visitors, especially on weekends. Providing a separate path that pedestrians and cyclists could use would help alleviate safety issues and conflicts with motor vehicles. Impacts related to parking and crowding problems would remain similar to alternative A: adverse, local, long-term, and moderate.

**Blue Ridge Music Center**—Expanding information and orientation capabilities and park participation in heritage tourism projects generally would not result in any measurable change to visitor access, circulation, and parking. Impacts would be adverse, local, long-term, and negligible to minor. However, public awareness of, and interest in, this relatively new venue on the parkway continues to grow in popularity. The parkway would need to monitor this growth and related impacts on site circulation and parking and be prepared for adjusting management accordingly.

**Mt. Pisgah**—No changes are planned under this alternative that would measurably affect access and circulation or crowding at this major recreational destinations outside of the RV hookup upgrades that may draw more demand for RV camping. Therefore, long-term impacts would be local, adverse, and minor to moderate.

**Cumulative Impacts.** Several counties and municipalities adjacent to the parkway have implemented or are planning to undertake a variety of recreation and tourism initiatives to grow local economies and improve quality of life. Several counties also anticipate substantial new residential developments. The greatest ongoing activity is development on private lands adjacent to the Roanoke, Highlands, and Asheville segments. These actions would draw more nonrecreational and recreational use overall, increasing congestion and demand for park services, thereby adversely affecting access and circulation, crowding, and personal safety. In addition,

many state and local plans call for widening of highways and improvements to transportation systems in certain areas of the parkway, particularly in Roanoke and North Carolina. Other counties also plan to construct new roads or implement deferred maintenance projects.

Several counties are establishing conservation easements to prevent conversion of lands to residential or commercial developments. Also, the large tracts of U.S. Forest Service lands along the Ridge, Black Mountain, and Pisgah segments provide long-term protection of adjacent lands from development. The easement projects would provide some beneficial effects related to access and circulation and crowding in local areas. The U.S. Forest Service lands contribute considerable long-term protection for those areas.

Some cities and counties along the parkway are developing greenway and bike path projects or promoting cycling in other ways. Roanoke is planning a 30-mile bicycle/pedestrian path from western Roanoke County to the parkway. Buncombe County may develop two greenway projects that would create a continuous trail system connecting three counties, five municipalities, the parkway, and the Appalachian Trail. Along the Highlands and Black Mountain segments of the parkway, the High Country Council of Governments has and is preparing road cycling maps of its counties. Watauga County is also planning land acquisition for greenways and bike trails. As roadways experience increasing traffic, moving cyclists onto greenways would improve safety and potentially reduce conflicts. However, conflicts between cyclists and pedestrians using new pathways would likely occur and some cyclists may prefer to continue riding on roads.

The parkway's enhanced role in the region as a leader in scenery conservation, the expanded land protection program, and partnership activities would be beneficial in reducing some of the adjacent development and associated traffic, as would continuation



of the parkway's moratorium on secondary road improvements and construction of some grade separation structures. This would contribute to an improved driving experience. Less recreation zoning and more natural zoning would limit some demand for these areas due to limited backcountry access. Development of four multiuse paths in the Ridge, Roanoke, Highlands, and Asheville segments would tie in with community greenways and provide considerable alternatives for local visitors to driving or cycling on the roadway. Also, working with local entities to develop mass transit access to parkway sites in urban nodes such as Asheville, would further enhance alternative transportation choices and provide opportunities for some who would otherwise not visit the parkway.

These past, present, and reasonably foreseeable future actions would result in primarily long-term moderate, mostly adverse cumulative impacts on a regional scale to parkway congestion, parking, and safety concerns, especially in the more urban and growing counties along the parkway. Alternative C actions, when combined with these regional changes, would result in adverse and beneficial minor to moderate local long-term impacts on access, circulation, and safety. The contribution of this alternative would be moderate and primarily beneficial.

**Conclusion.** Alternative C would manage for lower-level visitor use due to the higher percentage of Natural zoning. Managing for lower level visitor use in most of the 15 recreation areas would be a beneficial impact on crowding and access and circulation. Although few new hiking trails would be developed to accommodate future increases in use levels, visitors would have more backcountry opportunities for solitude in a natural setting. Visitor services would be concentrated in visitor services zones, which would be designed for concentrated use. This could lead to some crowding and increased length of stay in the recreation areas; however, updated facilities would help increase level of service and efficiency in those areas. In the frontcountry along three urban sections of the

parkway, development of about 52 miles of multiuse paths would help reduce bicyclist-motorist conflicts in those areas. Compared to existing conditions, visitors who most value a quality scenic driving and improved bicycling experience would experience long-term beneficial impacts. Those visitors who desire more and better access to backcountry areas would experience adverse impacts. These long-term impacts would be noticeable and affect many visitors in a local area, resulting in adverse and beneficial moderate effects depending on visitor preference.

## RECREATIONAL OPPORTUNITIES

### Alternative A—No-action

**Parkway-wide.** Under this alternative, the parkway would continue to have limited ability to provide adequate trail-based recreational opportunities for visitors. This is because the parkway was originally designed for leisure and relaxation, rather than active outdoor recreation that many visitors seek today. As a result, parkway trail systems were not designed to handle the large number of visitors currently using them, and consequently, trail damage and visitor crowding is not uncommon. For example, the heavily used trail system at Humpback Rocks is complex and confusing to visitors, resulting in multiple social trails and off-trail use. However, the high level of use along many of the parkway's trails points to their popularity among visitors.

Other than the Appalachian Trail (managed as a separate national park system unit) in the northern part of the parkway, few of the parkway's long-distance trails provide designated camping sites. This dissuades visitors from taking extended hiking trips and results in some illegal camping, for example, at Hebron Falls in Julian Price Park. Equestrian use is also popular and the parkway has limited opportunities to support this use. Also, mountain biking is also currently in high demand, but the parkway offers no opportunities for this activity. Furthermore, few trails within the parkway are designed for

universal accessibility. As a result, the parkway is not meeting visitor expectations for trail-based recreation. This is compounded by the parkway's challenge of maintaining existing trail systems with current staffing levels and budget constraints. Overall, these factors diminish the experience for visitors seeking trail-based opportunities along the parkway.

Under the no-action alternative, the parkway would continue to provide diverse recreational opportunities for visitors; however, minimal services and outdated facilities would continue to limit the National Park Service's ability to offer these at the highest quality possible. Although the parkway is open year-round, visitor contact services are only offered during six months of the year in most places. There are three visitor centers in the Asheville area that are open year-round. More recently, the parkway has had to shorten the duration of visitor services by several more weeks, due to budget constraints. Currently, few facilities along the parkway are open until mid-May, whereas they were previously available to the public during the first week of April. Most visitors traveling the parkway during the off-season are unaware of the lack of services available to them. Even basic amenities, such as restrooms, cannot be found along major stretches of the parkway during this time of the year. As a result, the parkway receives numerous complaints from visitors each year about the lack of services available during the off-season.

The parkway was designed for, and relies on, concession operators to provide a wide range of visitor services, including lodges, restaurants, and shops at numerous recreation sites. However, some concessions have closed because they are not as economically viable as before. This is due in part to the increase in services provided adjacent to the parkway in nearby communities. For example, more than 60% of visitors now stay overnight in hotels, bed and breakfasts, and other campgrounds off the parkway. Furthermore, park concessions are in facilities that lack modern amenities visitors are seeking. Under this alternative, it is possible that more

concessions would close in the future because of these factors. As a result, the original concept behind the parkway to provide a self-contained, leisurely driving experience could be further diminished if visitors feel they have to leave the parkway frequently to obtain lodging or food. This would be a long-term local and regional adverse impact on the quality of the visitor's traditional parkway experience.

The nine parkway campgrounds are following a similar trend as concessions. Although the campgrounds are well located, most are underused. This is primarily because their facilities are outdated and do not provide the types of modern-day amenities people are looking for—such as showers, RV hook-ups, larger tent and RV sites, and universal accessibility. Conversely, private campgrounds adjacent to the parkway offer these amenities and, as a result, attract many parkway visitors seeking overnight accommodations. Currently the parkway is upgrading some campground comfort stations to include showers and to be universally accessible. This would be a long-term local beneficial impact on park campers. However, this improvement would not offset the larger problems that keep many visitors from using these campgrounds. It would, however, maintain the rustic character of these campgrounds, which some visitors prefer.

### **Parkway Segments and Recreation**

**Areas.** Only those parkway segments and recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

*Segments 1, 2, 4, and 6*—As discussed under access and circulation, the north end of the parkway near Waynesboro, the Roanoke area, the Boone/Blowing Rock area, and Asheville, are the four areas that currently experience steady levels of bicycle use and some incidents of bicycle-motorist conflicts. Conflicts between motorists and cyclists would likely continue to escalate in this segment under continuation of current management actions. Local long-term adverse impacts would be

detectable and hazards could noticeably increase in this area, resulting in moderate effects if conflicts continue to escalate.

*Roanoke Mountain*—The campground is the least used in the entire parkway. This site is close to other community attractions, such as Mill Mountain zoo and is a popular site to access trails for hiking and horseback riding.

*Mabry Mill*—This recreation area is very popular, especially on weekends for music and pancake breakfasts, and receives much repeat visitation. The current restaurant is too small for the visitor demand and the outdoor network of pedestrian access and circulation is inefficient. Because the site is bisected by a state road, visitors must cross it to access the overflow parking area.

**Cumulative Impacts.** A number of counties and municipalities adjacent to the parkway have projects that would improve recreation and tourism opportunities in the region. Some of the projects that would improve recreational opportunities include the completion in Roanoke County of several greenway projects, including a 30-mile multiuse path from western Roanoke County to the parkway and improvements to the Mill Mountain attractions by Roanoke Mountain.

Stone Mountain State Park (Highlands segment) has a number of capital improvement projects planned to improve public recreational and educational use of the park, including expansion of their visitor center. Mount Mitchell State Park, adjacent to the parkway in the Black Mountain segment, proposes to provide some new recreational opportunities including a backcountry campground and new hiking and mountain biking trails.

Along the Black Mountain segment, Burke County has recreation and tourism initiatives that include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area. Two greenway projects in Buncombe County would create 26 miles of trail, creating a continuous trail system connecting three counties, the parkway, and

the Appalachian Trail. The Carl Sandberg Home National Historic Site, near the Pisgah segment, has several new projects to enhance its historic character and visitor experiences, including a future visitor center. Also, the proximity of U.S. Forest Service lands, including the Jefferson/George Washington and Pisgah national forests provide an extensive network of frontcountry and backcountry hiking, biking, horseback riding opportunities adjacent to Ridge, Black Mountain, and Pisgah segments.

These past, present, and reasonably foreseeable future actions as they relate to lodging and camping would result in additional choices for visitors. However, there would be long-term local adverse effects on visitor use of parkway campgrounds and lodging concessions. Alternative A impacts on the visitor experience due to outdated facilities and services, would contribute a moderate amount to reducing visitor interest in parkway facilities and the reduction of a quality driving experience as visitors choose to get off the parkway to seek better services.

The past, present, and reasonably foreseeable future actions as they relate to trail recreation would contribute additional opportunities to visitors to the region, potentially improving the overall attractiveness of the visitor experience and visitor length of stay. Some of these opportunities can help meet some recreational demands that the parkway cannot meet, such as mountain biking and more extensive backcountry hiking and camping. Many of the county greenway projects would help to improve recreational access to the parkway and potentially connect to some existing trails. Alternative A impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative A would contribute a comparatively small level of beneficial effects to the overall cumulative impacts.

**Conclusion.** Visitors would continue to have access to a variety of quality recreational trails

and relatively rustic campground opportunities the length of the parkway. This would continue to be a long-term primarily beneficial impact on the visitor experience. Visitors may continue to have access to a variety of concession services, including lodging; however, current limitations of parkway concession amenities result in more and more visitors choosing to leave the parkway to access more modern food, lodging, and camping services. As a result, some parkway concessions are closing. This has the potential to substantially impact the quality of the traditional self-contained, leisurely driving experience of the parkway. This would be a long-term moderate adverse impact on the quality of the overall visitor experience for many visitors. Alternative A impacts, when combined with regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative A would contribute a comparatively small level of beneficial effects to the overall cumulative impacts.

### **Alternative B (NPS Preferred)**

**Parkway-wide.** This alternative would enhance trail-based opportunities primarily within those areas zoned recreation inside parkway recreation areas. This zone would account for 9.4% of the parkway's total land base. This would be accomplished through projects to improve trail conditions, provide more universal accessibility, construct new trails, and in some locations by accommodating a wider range of trail activities. Such activities would potentially include designated equestrian camping and parking facilities at Doughton Park. Trails would be designed to more adequately accommodate greater numbers of visitors and specific types of use—thereby improving trail conditions and recreational circulation, which would enhance the visitor experience. Additional designated backcountry campsites would also be allowed within the recreation, natural, and special natural resource zones, which would improve long-distance

backpacking or trail riding opportunities and reduce illegal camping. This would not help most long distance cyclists that need more frequent places to camp than the current spacing of parkway campgrounds allow. Cyclists would continue to have to leave the parkway to find legal places to camp.

Increased availability of trails, primarily in the recreation zones, would provide greater visitor opportunities for trail recreation; this would help meet increasing local use of the parkway in the more urban areas. However, where hikers have to share unpaved trails with horses, it may have an adverse impact on the hikers' experience. Some of this would be dependent on use levels and the potential for conflicts. Opportunities for solitude and natural sounds would be less available in the recreation zone during peak season.

Under alternative B, the parkway would expand recreational opportunities, amenities, and services for visitors, while emphasizing the original parkway design and traditional driving experience. Visitor services would be extended to nine months a year from the current six-month season at five locations. This would allow for more facilities and services (e.g., restrooms, visitor contact stations, etc.) to be available to visitors traveling the parkway during the shoulder seasons.

Under this alternative, strategies would be applied to ensure the long-term viability of concession services at all existing locations (e.g., lodges, restaurants, and shops) along the parkway. For some concessions that are doing well, few changes would be necessary. However, for others, changes could include upgrading facilities with more modern amenities and/or increasing capacity. Ensuring that these important services continue would support the parkway's original concept to provide a self-contained, leisurely driving experience for visitors—an important part of the parkway designers' original concept.

Eight of the parkway campgrounds would receive modest upgrades under this

alternative to improve the camping experience for visitors. These improvements would include providing showers and universal access to comfort stations, enlarging tent sites, and upgrading RV sites with water and electrical hookups. These improvements would likely attract more visitors, increasing campground occupancy rates and ultimately their self-sufficiency. As with improvements to concessions, campground upgrades would also enhance the self-contained, leisure driving experience for visitors. However, upgrading RV sites could disturb tent campers if upgrades result in more noise from RV use of campgrounds, which would diminish their camping experience. Separation of camper types would help to mitigate such conflicts.

**Parkway Segments.** Under alternative B, there are no parkway segments that would have more specific impacts than those described under the parkway-wide section above.

**Recreation Areas.** Only those recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

*Peaks of Otter*—The only campground that would be partly redesigned to accommodate larger RVs in alternative B, would be the Peaks of Otter campground. This would result more amenities to RV campers. This would be a local long-term beneficial impact on the camping opportunities of RV campers and potentially an adverse impact on some tent campers' experience.

*Roanoke Mountain*—Elimination of the Roanoke Mountain campground would have local minor to moderate adverse impact on those visitors who use and enjoy this campground. The average seasonal occupancy rate of the Roanoke Mountain campground is the lowest of all parkway campgrounds, at less than 25%, which points to limited demand for this use. Changing it to a day use area for picnicking and trail use would broaden Roanoke area day use recreational opportunities with connections to Roanoke trails and venues at Mill Mountain and other

Roanoke attractions. Especially for local visitors, this would be a long-term local minor to moderate enhancement of recreational opportunities. For infrequent out-of-town visitors, loss of the campground might cause some confusion and inconvenience. The parkway would need to ensure that website, brochure, and visitor center information is updated.

*Rocky Knob*—The Gorge trail system would be upgraded, backcountry camping enhanced, and trailhead staging and parking would be improved. Also, as part of the camping and concession improvements at this area, the parkway would find ways to enhance cabin camping opportunities, potentially through upgrading and/or adding additional structures. These changes would provide local long-term minor improvements to visitor opportunities for backcountry and cabin camping recreation. Such improvements could result in increased visitation and length of stay but the parking improvements near these areas would help alleviate crowding and access and circulation issues. Currently, visitors see fewer people than they prefer to at this recreation area, indicating that crowding is not a problem. Therefore, no measurable impacts are anticipated.

*Doughton Park*—Designating mixed-use trails for horses and hiking; constructing trailhead parking that would accommodate horse trailers; and providing equestrian camping would be a local long-term beneficial impact on equestrian opportunities in this recreational area. This mixed use of current hiking trails would be a minor adverse impact on some hikers' experience.

*Craggy Gardens*—Closing Craggy Pinnacle trail would remove a very popular hiking trail from the Craggy Gardens Recreation Area. For frequent hikers of this trail, it potentially would be a local moderate adverse impact on their enjoyment of this area. Public use and satisfaction in replacing the trail with a designated trail to Craggy Dome would take time and would not be readily accepted.

**Cumulative Impacts.** A number of counties and municipalities adjacent to the parkway have projects that would improve recreation and tourism opportunities in the region. Some of the projects include the completion in Roanoke County of several greenway projects, including a 30-mile multiuse path from western Roanoke County to the parkway and improvements to the Mill Mountain attractions by Roanoke Mountain.

Stone Mountain State Park (Highlands segment) has a number of capital improvement projects planned to improve public recreational and educational use of the park, including expansion of their visitor center. Mount Mitchell State Park (Black Mountain segment) proposes to provide some new recreational opportunities including a backcountry campground and new hiking and mountain biking trails.

Along the Black Mountain segment, Burke County has recreation and tourism initiatives that include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area. Two greenway projects in Buncombe County would create 26 miles of trail, creating a continuous trail system connecting three counties, the parkway, and the Appalachian Trail. The Carl Sandberg Home National Historic Site, near the Pisgah segment, has several new projects to enhance its historic character and visitor experiences, including a future visitor center. Also, the proximity of U.S. Forest Service lands, including the Jefferson/George Washington and Pisgah national forests provide an extensive network of frontcountry and backcountry hiking, biking, and horseback riding opportunities adjacent to Ridge, Black Mountain, and Pisgah segments.

These past, present, and reasonably foreseeable future actions as they relate to lodging and camping would potentially result in long-term local minor to moderate adverse effects on visitor use of parkway campgrounds and lodging concessions. Alternative B would contribute long-term beneficial moderate to major effects by enhancing the amenities of these parkway services. Over time, this would

substantially increase the ability of parkway concessions and campgrounds to attract visitor use and keep visitors on the parkway. Overall, the cumulative impacts related to concession and camping activities on the parkway would have mostly beneficial, minor to moderate long-term impacts on quality of the traditional parkway experience for many visitors.

The past, present, and reasonably foreseeable future actions as they relate to trail recreation would contribute additional opportunities to visitors to the region, potentially improving the overall attractiveness of the visitor experience and visitor length of stay. Some of these opportunities can help meet some recreational demands that the parkway cannot meet, such as mountain biking and more extensive backcountry hiking and camping. Many of the county greenway projects would help to improve recreational access to the parkway and potentially connect to some existing trails. Alternative B impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative A would contribute a comparatively small to medium level of beneficial effects to the overall cumulative impacts.

**Conclusion.** The improvement of campground amenities, the substantial efforts to ensure that parkway concessions remain viable, and a variety of trail and day use enhancements primarily in the recreation zones, would have long-term local and regional moderate to major beneficial impacts on the availability of recreational opportunities to visitors. Actions such as the elimination of the Roanoke campground, more use of parkway campgrounds by RVs, and designating mixed use horse and hiking trails at Doughton, would result in some local minor to moderate long-term adverse impacts on some visitors' experiences. The regional availability of alternative camping and lodging services would continue to draw some visitors from the parkway, but this would be considerably less than in alternative A. The

growing variety and miles of trail opportunities in local communities, state parks, and national forests would help meet some demand for types of trails that the parkway would not meet, and enhance local visitor connections to the parkway through greenway projects. Alternative B impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative B would contribute a comparatively small to medium level of beneficial effects to the overall cumulative impacts.

### **Alternative C**

**Parkway-wide.** Under this alternative, less than 1% of the parkway's total land base would be zoned recreation, compared to 12% under alternative B. Lands zoned recreation under alternative B would be zoned natural under this alternative. As such, there would be fewer trail-related improvements to accommodate activities such as hiking, horseback riding, and universal access. Some trail damage, illegal camping, and visitor crowding and circulation problems would likely continue to diminish the visitor experience. Mountain biking would continue to not be allowed, precluding future opportunities for this type of use. Conversely, visitors venturing into these areas of the parkway would likely encounter a more intact natural environment and may have greater opportunities experience solitude and self-reliance.

Under alternative C, the proposed management approach would enhance visitor services in developed areas along the parkway. This would be accomplished through the implementation of projects designed to achieve desired conditions outlined in the visitor services zone, which include more modern-day recreational amenities, such as campground redesigns and upgrades. This zone would account for 2.2% of all lands within parkway recreation areas, compared to

0.3% under alternative B. These improvements would allow greater numbers of visitors to experience a variety of recreational opportunities in a setting designed to support high levels of use. Year-round visitor services would increase from the three visitor centers in the Asheville/Black Mountain area, to eight visitor facilities, including several in Virginia. These year-round services (e.g., restrooms, visitor contact stations) would be the most helpful along segments of the parkway that continue to be heavily used by visitors during the shoulder seasons, such as Asheville and Roanoke. Higher elevation areas would continue to be closed to vehicles in the wintertime due to snow and ice conditions.

Under this alternative, concession services may close in the future if they continue to lack the economic viability as discussed in alternative A. The parkway would not pursue strategies to improve their success as proposed under alternative B. Rather, the parkway would rely more on the private sector in nearby communities to provide lodging and food services. As a result, the original concept behind the parkway to provide a self-contained, leisure driving experience could be diminished.

Most parkway campgrounds would receive the greatest level of upgrades under this alternative to improve the camping experience for visitors. Improvements would include providing showers and universal access to comfort stations, enlarging tent sites, upgrading RV sites with water and electrical hookups, and redesigning a section of each campground to improve access and circulation for larger RVs (except at Mt. Pisgah). These improvements would likely attract more visitors, increasing campground occupancy rates and ultimately their self-sufficiency. Also, campground upgrades would help keep some visitors from leaving the parkway for commercial campgrounds and help maintain a traditional self-contained, leisure driving experience for them. However, upgrading RV sites could disturb tent campers if upgrades result in more RV use of

campgrounds, which would diminish their camping experience.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide section are described below.

*Segments 1, 2, 4, and 6: Ridge, Roanoke, Highlands and Asheville*—Under alternative C, the parkway would pursue development of four paved multiuse trails parallel to, but separate from, the parkway in the Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville areas. These trails would range from about 11 to 15 miles in length. As noted under alternative A, cycling is popular in these areas of the parkway and conflicts between cyclists and motorists do occur and may be increasing. Local planning departments encourage use of multiuse paths for cyclists, and many motorists are in favor of them. Providing these off-road paths would be popular, especially with local visitors and parkway campers, and provide many miles of new recreational trail opportunities. This would be a long-term major beneficial impact on recreational trail opportunities in the park. As with any mixed-use trail, there is the potential of conflicts between cyclists and pedestrians. As a result, some cyclists would continue to use the parkway.

*Segment 4: Highlands*—The multiuse path proposed for this segment in the Boone/Blowing Rock area and south, in the Moses H. Cone and Julian Price recreation areas, would provide an alternative off-road opportunity parallel to the parkway to bicycle and walk without having to mix with traffic. This would be a new recreational opportunity that would be popular and could potentially link with adjacent community trails. This would be a long-term improvement in the visitor experience because it would provide an additional recreational opportunity for visitors and provide another way of seeing the parkway landscape and the Moses H. Cone and Julian Price parks without having to drive or bicycle on the parkway. This would be especially attractive to families that live locally or are camping or lodging along the parkway.

**Recreation Areas.** Only those recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

*Mabry Mill*—Under alternative C, the parkway would investigate development of a multiuse trail between Mabry Mill and Meadows of Dan. Mabry Mill is a popular and traditional destination for many visitors, especially on weekends. Providing a separate path that pedestrians and cyclists could use would help alleviate safety issues and conflicts with motor vehicles. This would be a local minor to moderate beneficial impact on recreational trail opportunities in this area.

*Julian Price Park*—The Highlands segment multiuse trail would parallel the parkway through Julian Price Park, ending at the campground and Price Lake area. As mentioned under the Highlands segment, this would be a new and popular recreation opportunity that would be attractive to local residents of the Boone/Blowing Rock urban area and campers at Julian Price. Mixing bicycle use and hikers could result in conflicts and adversely affect the quality of the recreational experience. Also, these trails increase the likelihood that they would become destination attractions to which visitors may drive to and park in order to access the trails. This would add demand for parking and potentially increase length of stay.

**Cumulative Impacts.** A number of counties and municipalities adjacent to the parkway have projects that would improve recreation and tourism opportunities in the region. Some of the projects include the completion in Roanoke County of several greenway projects, including a 30-mile multiuse path from western Roanoke County to the parkway and improvements to the Mill Mountain attractions by Roanoke Mountain. Stone Mountain State Park (Highlands segment) has a number of capital improvement projects planned to improve public recreational and educational use of the park, including expansion of their visitor center. Mount Mitchell State Park (Black Mountain segment), proposes to provide some new



recreational opportunities including a backcountry campground and new hiking and mountain biking trails. Along the Black Mountain segment, Burke County has recreation and tourism initiatives that include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area. Two greenway projects in Buncombe County would create 26 miles of trail, creating a continuous trail system connecting three counties, the parkway, and the Appalachian Trail. The Carl Sandberg Home National Historic Site, near the Pisgah segment, has several new projects to enhance its historic character and visitor experiences, including a future visitor center. Also, the proximity of U.S. Forest Service lands, including the Jefferson/George Washington and Pisgah national forests provide an extensive network of frontcountry and backcountry hiking, biking, horseback riding opportunities adjacent to Ridge, Black Mountain, and Pisgah segments.

These past, present, and reasonably foreseeable future actions as they relate to concession services such as lodging would result in long-term local adverse effects on visitor use of parkway concessions. Alternative C impacts on the visitor experience due to continuing to provide outdated concession facilities and services would contribute a moderate amount to reducing visitor interest in parkway concessions, concession closures, and the reduction of a quality driving experience as visitors choose to get off the parkway to seek better services.

The past, present, and reasonably foreseeable future actions as they relate to trail recreation would contribute additional opportunities to visitors to the region, potentially improving the overall attractiveness of the visitor experience and visitor length of stay. Some of these opportunities can help meet some recreational demands that the parkway cannot meet, such as mountain biking and more extensive backcountry hiking and camping. Many of the county greenway projects would help to improve recreational access to the parkway and potentially connect to the four

multiuse trails proposed. Alternative C impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative A would contribute a comparatively small to medium level of beneficial effects to the overall cumulative impacts.

**Conclusion.** The substantial improvement of campground amenities, the 52 miles of multiuse trails in the Ridge, Roanoke, Highlands, and Asheville segments and the variety of other trail and day use enhancements primarily in the visitor use zones would have long-term local and regional moderate beneficial impacts on the availability of recreational opportunities to visitors. More use of parkway campgrounds by RVs and potential conflicts between cyclists and pedestrians on the multiuse trails, would result in some local minor to moderate long-term adverse impacts on some visitor experiences. The regional availability of alternative lodging and food services would continue to draw many visitors from the parkway as the parkway would not go to extra lengths to upgrade these parkway concession services. The potential closure of parkway concessions would be a long-term moderate adverse impact on the tradition parkway experience. The growing variety and miles of trail opportunities in local communities, state parks, and national forests would help meet some demand for types of trails that the parkway would not meet and enhance local visitor connections to the parkway through greenway projects. Alternative C impacts, when combined with these regional opportunities, would result in local and regional moderate long-term beneficial impacts on the availability of recreational opportunities in the 29-county parkway region. Alternative C would contribute a comparatively small to medium level of beneficial effects to the overall cumulative impacts.

## OPPORTUNITIES FOR ORIENTATION, INFORMATION, AND INTERPRETATION

### Alternative A—No-action

**Parkway-wide.** Orientation and entry experience. The parkway’s current lack of adequate orientation services at the north and south entrances to the parkway has local long-term moderate adverse impacts on the visitor experience, especially for first time visitors. These entrances are poorly marked and the sense of arrival to the parkway is missing. Without proper orientation, visitors are uninformed and consequently miss opportunities to fully experience and appreciate the parkway. Two other popular entry areas where orientation is lacking are at Roanoke and Boone/Blowing Rock urban areas. The visitor center at Explore Park near Roanoke does provide opportunities to orient visitors to the parkway; however, it is not along any of the primary access points to this portion of the parkway and it is staffed by non-NPS employees.

*Information and Interpretation*—A primary purpose of parkway information and interpretation services is to provide for public enjoyment and understanding of the park, including its history, scenery, and the natural resources and cultural heritage of the central and southern Appalachian Mountains. Park interpretive and education programs currently offered along the parkway are highly regarded by visitors. Common to all alternatives is the curriculum-based school outreach programs at schools and the parkway that reach over 25,000 students. Other examples include the summer guided hike at Rock Castle Gorge (Rocky Knob), interpretation of Brinegar Cabin (Doughton Park), and overall interpretive programming at Peaks of Otter and James River/Otter Creek. The parkway has recently developed the Blue Ridge Music Center and the Blue Ridge Parkway Visitor Center—two modern facilities with interpretive exhibits and programs that enhance visitors’ understanding and appreciation of the parkway and Appalachian heritage. The continuation of the parkway’s many interpretive programs and information

services would continue to be a long-term local and regional moderate beneficial impact on visitors and local youth.

Altogether, the parkway offers six visitor centers and eight smaller contact facilities along the 469 miles of parkway. Some of the contact facilities are too small to adequately meet public need. Also, the parkway’s information and interpretive services have and continue to be negatively affected by staff reductions and a lack of adequate funding to support programs and facilities. As a result, 11 out of those 14 visitor contact facilities and park-based interpretive programs are available only six months out of the year. Only about 5% of visitors receive personal contact from park staff; and there is very little interpretation of the parkway’s diverse natural environments. One visitor contact station (Cumberland Knob) has been closed. This is an ongoing long-term minor to moderate adverse impact on the ability of visitors to interact with park staff and learn about the park.

Also, other entities are beginning to develop heritage tourism attractions and “trails” that share some of the parkway’s stories and sites. These heritage tourism areas provide added opportunities for visitors to explore in more depth the Appalachian themes and stories of interest to them, such as music and crafts. Currently the parkway works in cooperation with the Blue Ridge Heritage Area to share facilities at the new Blue Ridge Visitor Center. However, in general, the parkway is limited in their assistance to promote these heritage tourism stories or sites off the parkway. This is a negligible to minor adverse impact on visitor opportunities to learn about more opportunities off the parkway.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide section are described below.

*Segment 3: Plateau*—The parkway’s interpretive program at Kelley School and the Harris Farm is very limited.

**Segments 5 and 6: Black Mountain and Asheville**—Three of the parkway’s 14 visitor facilities are open year-round and they are all in North Carolina. They are the Folk Art Center and Blue Ridge Visitor Center in the Asheville segment, which are 2 miles apart, and the Museum of North Carolina Minerals, which is 50 miles from the Folk Art Center in the Black Mountain segment. This results in all of the Virginia segments of the parkway and much of the North Carolina segments without visitor contact facilities 50% of the year.

**Recreation Areas.** Only those recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

**Humpback Rocks**—The Howardsville Turnpike is under interpreted and this limits the public’s opportunities to learn about early transportation routes between remote Appalachian settlements. This would be a local long-term negligible to minor adverse impact on visitor opportunities.

**Peaks of Otter**—The two farm sites, the Johnson and Saunders farms, are in poor condition and are not interpreted to the public. As a result, visitors lack the opportunity to learn about the farms’ respective stories about early Appalachian tourism and rural mountain settlement of African Americans.

**Rocky Knob**—Current interpretation of the old Rockcastle Gorge settlement area is limited to guided law enforcement walks. As a result, visitors have limited access to information and interpretation about this area, which is a local, negligible to minor adverse impact on park visitors.

**Mabry Mill**—Mabry Mill is one of the most visited sites on the parkway, receives much repeat visitation, and is open only six months of the year. As an outdoor museum of mountain industry and lifestyles, its program has remained relatively static and its current circulation system is inefficient. This results in missed opportunities to reach many visitors

with additional and varied messages about park themes, which is a long-term minor local adverse impact on visitor opportunities.

**Cumberland Knob**—The visitor center is closed to the public. This is a long-term local adverse impact on visitor access to information and interpretation services as well as emergency assistance.

**Mt. Pisgah**—The Buck Spring Lodge site of a historic hunting lodge receives minimal management and interpretation with waysides, which limits public awareness and appreciation of this site, which is a local long-term minor adverse impact on visitor opportunities to learn about the story of early use and tourism by the wealthy.

**Cumulative Impacts.** There are adjacent counties and municipalities that have projects ongoing or planned that would improve information and interpretation opportunities in the region. Some of the projects include the city of Roanoke’s ongoing or planned recreation and tourism projects, including renovation of the Historic City Market and Center in the Square. Stone Mountain State Park (Highlands segment) has a number of capital improvement projects planned to improve public recreational and educational use of the park, including expansion of their visitor center. Along the Black Mountain segment, Burke County has recreation and tourism initiatives that include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area and is collaborating to improve the Brown Mountain Overlook, a stopping point for tourists on their way to the parkway. The Carl Sandberg Home National Historic Site, near the Pisgah segment, has several new projects to enhance its historic character and visitor experiences, including a future visitor center. Also, Great Smoky Mountains National Park is developing plans to improve the Oconoluftee Visitor Center.

These past, present, and reasonably foreseeable future actions at would result in long-term local negligible to minor beneficial impacts on visitor opportunities to learn about

the parkway resources and stories. Alternative A impacts, when combined with these regional activities, would be local and regional minor to moderate long-term beneficial impacts. Alternative A actions would be a considerable beneficial contributor to these effects.

**Conclusion.** The parkway currently provides the majority of information, interpretation, and educational opportunities about the parkway. These services enhance visitor knowledge and understanding of parkway resources and themes at a local and regional level and are a long-term beneficial impact on visitors. There are 14 visitor centers or smaller contact facilities open along the 469-mile parkway. Most of these facilities and related programs are limited to a six-month visitor season and currently only about 5% of visitors ever interact with park staff. There are only three visitor centers open year-round and all of them are near the Asheville, North Carolina area. Virginia and much of the North Carolina segments of the parkway have no visitor contact services between November and April. Some of the current facilities are too small to adequately serve the public, and other sites that receive high use, such as Mabry Mill, or have important stories to tell, such as Cumberland Knob or the Saunders and Johnson farm sites, have inadequate interpretive information or programs. The Asheville segment provides considerable orientation opportunities, these services are mostly absent at the north and south entrances to the parkway and at Roanoke and the Boone/Blowing Rock areas, all important entry areas to the parkway. Consequently, while the parkway provides quality information and interpretation services for the peak visitor season, many visitors receive inadequate orientation to the parkway and do not have access to services for six months of the year and at certain sites year-round. These conditions result in long-term beneficial and adverse minor to moderate impacts on visitor access to orientation, information, and interpretive services along the parkway. Alternative A impacts, when combined with regional activities, would be local and regional, minor to moderate, long-term, and

beneficial. Alternative A actions would be a considerable beneficial contributor to these effects.

## **Alternative B (NPS Preferred)**

### **Parkway-wide.**

*Orientation*—Under alternative B, the parkway would improve orientation services at the north and south entrances and in the Roanoke area of the parkway and would achieve the goal of contacting through staffed and unstaffed facilities a larger percentage of visitors before they start their journey on the parkway. Providing information about the location of visitor services and recreational opportunities, sensitive resources, and safety concerns would allow visitors to make more informed decisions about their visit—ultimately improving their sense of arrival to the parkway and increasing their satisfaction and overall experience. This would be a long-term moderate beneficial impact on visitor orientation at these areas of the parkway.

*Interpretation and Education*—By extending, from six months to nine months, access to visitor services at four locations in Virginia (Humpback Rocks, James River/Otter Creek, Peaks of Otter, and Mabry Mill) and at Linville Falls in North Carolina, the parkway would more than double the facilities accessible to the public in the spring and fall seasons. Also, this alternative would improve the quality and number of the contact facilities in the upper half of the park. These actions would substantially improve visitor access to park staff and interpretive information in the north half of the park. This would be a long-term beneficial moderate impact on visitor access to information and interpretive services.

Also, this alternative would improve overall interpretation of the parkway's primary themes, with enhancement of a particularly underrepresented theme of the parkway's ecological significance. Through a more ecosystem-based management approach, visitors would also have greater opportunities

to experience more intact natural environments of the Southern Appalachians. Expanding the database on the parkway's natural resources (through comprehensive inventories and ongoing monitoring of species and their habitats) would also allow for the development of more meaningful interpretive and educational programs for the public. This not only would allow visitors to gain a deeper appreciation of the parkway's natural environments, but also increase awareness of sensitive resources and ways to protect them. An example project would be the restoration of the grassy balds at Craggy Gardens and providing interpretation of this rare plant community (and ways to avoid damaging it) to visitors.

Alternative B would also improve interpretation of the parkway's historic resources that are representative of the cultural heritage of the Appalachian mountains. Examples include providing interpretation of the historic Howardsville Turnpike (at Humpback Rocks), improving interpretive media of the historic mountain industry at Mabry Mill, and rehabilitating and offering interpretation at the Saunders and Johnson Farms (at Peaks of Otter). The visitor contact station at Cumberland Knob would also be restored, staffed, exhibits installed, and law enforcement programs added that interpret the history of the parkway.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide section are described below.

**Recreation Areas.** Only those parkway segments and recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

*Humpback Rocks*—Interpretation of the Howardsville Turnpike would be improved, helping to enhance the public's opportunities to learn about early transportation routes between remote Appalachian settlements. This would be a local long-term negligible to minor adverse impact on visitor opportunities.

*James River/Otter Creek*—Converting the contact station to a wayside shelter would not substantially affect visitors, as this facility is very inadequate for its current uses.

*Peaks of Otter*—The two farm sites, the Johnson and Saunders farms, would be rehabilitated and stabilized, respectively, interpreted to the public. As a result, visitors would have added opportunity to learn about the farms' stories of early Appalachian tourism and rural mountain settlement of African Americans.

*Rocky Knob*—The visitor contact station would be closed and converted to a trailhead shelter once a new contact facility is established at Mabry Mill. The current facility is in an old gas station and is inadequate for its current use. This would be a local negligible to minor adverse impact on park visitors.

*Cumberland Knob*—The visitor center is closed to the public. This is a long-term local adverse impact on visitor access to information and interpretation services as well as emergency assistance.

*Mabry Mill*—The potential development of a new restaurant and a new visitor contact facility, as well as a redesign of pedestrian circulation and waysides, would add to visitor interest and demand at an already popular site, resulting in additional crowding and parking demand. Careful location and design of these facilities and accompanying parking would help mitigate the additional crowding. Also, increasing this site's visitor season from six to nine months may help disperse some of the crowding, as much of the visitation is repeat local use. Therefore, long-term impacts would be primarily local, adverse, and minor.

*Cumberland Knob*—The visitor contact station at Cumberland Knob would be reopened. It would be restored to its historic appearance, staffed, exhibits installed, and law enforcement programs added that interpret the history of the parkway.

*Mt. Pisgah*—The Buck Spring Lodge cultural landscape would be restored to improve visitor awareness and appreciation of this site.

**Cumulative Impacts.** A number of counties and municipalities adjacent to the parkway have projects that would improve recreation and tourism opportunities in the region. Some of the projects that would improve information and interpretation services include the city of Roanoke’s ongoing or planned recreation and tourism projects, including renovation of the Historic City Market and Center in the Square. Stone Mountain State Park (Highlands segment) has a number of capital improvement projects planned to improve public recreational and educational use of the park, including expansion of their visitor center. Along the Black Mountain segment, Burke County has recreation and tourism initiatives that include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area and is collaborating to improve the Brown Mountain Overlook, a stopping point for tourists on their way to the parkway. The Carl Sandberg Home National Historic Site, near the Pisgah segment, has several new projects to enhance its historic character and visitor experiences, including a future visitor center. Also, Great Smoky Mountains National Park is developing plans to improve the Oconoluftee Visitor Center.

These past, present, and reasonably foreseeable future actions would result in long-term local negligible to minor beneficial impacts on visitor opportunities to learn about the parkway resources and stories. Alternative B impacts, when combined with these regional activities, would be local and regional moderate long-term beneficial impacts. Alternative B actions would be a substantial beneficial contributor to these effects.

**Conclusion.** Implementation of alternative B would lengthen the visitor season from six to nine months at five of the recreation areas, especially in the northern half of the park. That would increase from three to eight the visitor contact facilities at which people could obtain information and other services at least

nine months a year. This alternative would improve the quality of visitor contact services at places such as Mabry Mill and Cumberland Knob and enhance interpretation of underrepresented themes, such as parkway ecosystems and history of the parkway. It would also introduce orientation services at three out of the four currently under serviced sites—the north and south entrances and at Roanoke. As a result, considerably more visitors would have improved access to information to plan their visit at the start of their visit. All of these actions would substantively enhance the visitors’ opportunities to learn about and appreciate parkway resources and themes, considerably more than what the surrounding region can contribute through local programs and services. All of these actions would be long-term local and regional moderate improvements to visitor’s access to information and interpretation services.

## Alternative C

### Parkway-wide.

*Orientation*—Under alternative C, the parkway would improve orientation services at the north and south entrances, as well as at the Roanoke and Boone/Blowing Rock urban areas and at Explore Park. Implementing this would help meet the parkway’s goal of contacting substantially more visitors before they start their journey on the parkway. Providing information about parkway services and recreational opportunities, sensitive resources, and safety concerns would allow many more visitors to make more informed decisions about their visit—ultimately improving their sense of arrival to the parkway and increasing their satisfaction and overall experience.

*Interpretation and Education*—By extending, from 6 months to 12 months, access to visitor services at three locations in Virginia (Humpback Rocks, Peaks of Otter, and Mabry Mill) and at Linville Falls in North Carolina, the parkway would go from only three visitor centers open year-round—all in

North Carolina near Asheville, to seven year-round facilities. This would more than double the facilities accessible to the public in the winter, early spring and late fall seasons. Also, this alternative would improve the quality of the contact facilities in the upper half of the park, such as Humpback Rocks and Cumberland Knob. These actions would substantially improve visitor access to park staff and information and interpretation services especially in the north half of the park. This would be a long-term beneficial moderate impact on visitor access to information and interpretive services.

This alternative would also improve overall interpretation of the parkway's primary themes, with enhancement of a particularly underrepresented theme of the parkway's ecological significance. Through a more ecosystem-based management approach, visitors would also have greater opportunities to experience more intact natural environments of the Southern Appalachians. Expanding the database on the parkway's natural resources (through comprehensive inventories and ongoing monitoring of species and their habitats) would also allow for the development of more meaningful interpretive and educational programs for the public. This not only would allow visitors to gain a deeper appreciation of the parkway's natural environments, but also increase awareness of sensitive resources and ways to protect them. An example project would be the restoration of the grassy balds at Craggy Gardens and providing interpretation of this rare plant community (and ways to avoid damaging it) to visitors.

Alternative C would also improve interpretation of the parkway's historic resources that are representative of the cultural heritage of the Appalachian mountains. Examples include providing interpretation of the historic Howardsville Turnpike (at Humpback Rocks); improving interpretive media about, and diversifying demonstrations of, the historic mountain industry at Mabry Mill; and stabilizing and interpreting the Saunders and Johnson Farm sites (at Peaks of Otter). The visitor contact

station at Cumberland Knob would also be restored, staffed, exhibits installed, and law enforcement programs added that interpret the history of the parkway. Also, within the visitor services zone, future growth of the Park-as-Classrooms program would be accommodated with additional program shelters and tables.

This, combined with increased park participation in heritage tourism projects, would provide visitors more expansive and integrated opportunities to experience the greater region and enhance the likelihood of more return visits. Over time, it would likely increase visitor use year-round. This would be a moderate long-term beneficial impact on the visitor experience along many sections of the parkway.

**Parkway Segments.** Only those parkway segments that would have more specific impacts than those described under the parkway-wide section are described below.

**Recreation Areas.** Only those recreation areas that would have more specific impacts than those described under the parkway-wide section are described below.

*Humpback Rocks*—Interpretation of the Howardsville Turnpike would be improved, helping to enhance the public's opportunities to learn about early transportation routes between remote Appalachian settlements. This would be a local long-term negligible to minor adverse impact on visitor opportunities.

*James River/Otter Creek*—Converting the contact station to a wayside shelter would not substantially affect visitors, as this facility is very inadequate for its current uses.

*Peaks of Otter*—The two farm sites, the Johnson and Saunders farms, would be rehabilitated and stabilized, respectively, and the sites interpreted to the public. As a result, visitors would have added opportunity to learn about the farms' stories of early Appalachian tourism and rural mountain settlement of African Americans.

**Rocky Knob**—Closing the visitor contact station and converting it to a trailhead shelter once a new contact facility is established at Mabry Mill would be a local negligible to minor adverse impact on park visitors. The current facility is in an old gas station and is inadequate for its current use. Enhanced interpretation of the historic mountain community in Rockcastle Gorge would be a long-term moderate beneficial impact on the visitor experience.

**Mabry Mill**—Increasing this site’s visitor season from 6 to 12 months may help disperse some of the crowding, as much of the visitation is repeat local use. Long-term impacts would be primarily local, adverse, and minor.

**Cumberland Knob**—The visitor contact station at Cumberland Knob would also be restored, staffed, exhibits installed, and law enforcement programs added that interpret the history of the parkway. Also, within the visitor services zone, future growth of the Park-as-Classrooms program would be accommodated with additional program shelters and tables.

**Mt. Pisgah**—The Buck Spring Lodge cultural landscape would be restored to improve visitor awareness and appreciation of this site.

**Cumulative Impacts.** A number of counties and municipalities adjacent to the parkway have projects that would improve recreation and tourism opportunities in the region. Some of the projects that would improve information and interpretation services include the city of Roanoke’s ongoing or planned recreation and tourism projects, including renovation of the Historic City Market and Center in the Square. Stone Mountain State Park (Highlands segment) has a number of capital improvement projects planned to improve public recreational and educational use of the park, including expansion of their visitor center. Along the Black Mountain segment, Burke County has recreation and tourism initiatives that include promotion of the Overmountain Victory Trail and the Blue Ridge National Heritage Area

and is collaborating to improve the Brown Mountain Overlook, a stopping point for tourists on their way to the parkway. The Carl Sandberg Home National Historic Site, near the Pisgah segment, has several new projects to enhance its historic character and visitor experiences, including a future visitor center. Also, Great Smoky Mountains National Park is developing plans to improve the Oconoluftee Visitor Center.

These past, present, and reasonably foreseeable future actions would result in long-term local negligible to minor beneficial impacts on visitor opportunities to learn about the parkway resources and stories. Alternative C impacts, when combined with these regional activities, would be local and regional moderate to major long-term beneficial impacts. Alternative C actions would be a substantial beneficial contributor to these effects.

**Conclusion.** Implementation of alternative C would lengthen the visitor season from 6 to 12 months at five of the recreation areas, especially in the northern half of the park. That would increase from three to eight the visitor contact facilities at which people could obtain year-round information and other services. This alternative would improve the quality of visitor contact services at places such as Humpback Rocks and Cumberland Knob. It would also enhance interpretation of underrepresented themes, such as parkway ecosystems and history of the parkway. The doubled use of the visitor services zone in this alternative substantially increases the parkway’s flexibility to redesign visitor services to help maximize visitor program opportunities, such as the Cumberland Knob Park-as-Classrooms program. It would also introduce orientation services at all four of the currently under serviced entrance sites—the north and south entrances, Roanoke, and Boone/Blowing Rock. As a result, many more visitors would have improved access to information to plan their visit at the start of their visit. All of these actions would substantively enhance the visitors’ opportunities to learn about and appreciate parkway resources and themes, considerably



more than what the surrounding region can contribute through local programs and services. All of these actions would be long-term local and regional beneficial improvements to visitor's access to information and interpretation services. Alternative C impacts, when combined with these regional activities, would be local and regional moderate long-term beneficial impacts. Alternative C actions would be a substantial beneficial contributor to these effects.

## **OPPORTUNITIES TO EXPERIENCE NATURAL SOUNDSCAPES**

### **Alternative A—No-action**

**Parkway-wide.** Under alternative A, the parkway would not have formal management strategies for soundscapes. There would be no increase in visitor contacts or interpretive information pertaining to soundscapes and some visitors would continue to submit complaints about excessive noise. Types of activities that generate complaints along the parkway include motorcycle noise and RV (generator) noise in campgrounds. As a result, there would continue to be long-term minor to moderate adverse impacts to visitor opportunities to experience natural sounds due to loud, excessive, or disturbing noise events, limited education about how visitors can reduce self-noise, and limited interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway.

**Parkway Segments.** Parkway segments would not experience more specific impacts than those described under the parkway-wide and recreation areas sections. Therefore, analysis conducted within the aforementioned sections also applies to all parkway segments.

**Recreation Areas.** Under alternative A, existing RV camping would continue without water and electrical hookups at all campgrounds. Without electrical hookups, visitors with RVs would be more likely to use their generators, increasing the likelihood of

disturbance to other visitors. Therefore, some visitors in parkway campgrounds might experience long-term minor to moderate adverse impacts due to unacceptable use of generators or experience unsatisfactory perceptions of generator noise.

**Cumulative Impacts.** Past, present, or reasonably foreseeable actions may affect visitor opportunities to experience natural soundscapes. Based on responses from 29 counties which represent the regional influence, those actions include recreation and tourism enhancements, residential and commercial developments, road constructions and improvements, and resource protection activities. Possible impacts from recreation and tourism enhancements include development of greenways, bike trails, and other recreation opportunities that would allow visitors more access to natural areas and experiences of natural sounds. For example, increased stream access would allow visitors opportunities to hear the sounds of flowing water. Nearby residential and commercial developments could increase the percentage of time that human caused noise is audible from the parkway. For instance, the development of wind power may increase the audibility of low-frequency noise which is emitted from wind turbines. Additionally, actions associated with road construction may cause short-term disruptions and increased noise. Developments of new highways would cause long-term increases in the amount of noise that would be audible in certain locations of the parkway. Finally, resource protection activities would likely help preserve the natural soundscape of the parkway by providing a buffer from extrinsic noise. For example, conservation easements would prevent the conversion of farmlands to residential developments, thereby decreasing the amount of extrinsic noise in proximity to the parkway.

There would be beneficial impacts to visitor opportunities to experience natural soundscapes from recreation and tourism enhancements and resource protection activities. There would be adverse impacts to visitor opportunities to experience natural

soundscapes from residential and commercial developments and road construction and improvements. Overall, there would be long-term negligible adverse impacts to visitor opportunities to experience natural soundscapes when the effects of alternative A are added to the enhanced recreation and resource protection activities. Impacts from the ongoing implementation of the no-action alternative combined with the effects of residential and commercial development and road construction and improvements would cause short-term and long-term negligible to moderate adverse impacts to visitor opportunities to experience natural soundscapes. The NPS contribution to adverse cumulative effects would be considerable due to a lack of management strategies to address noise issues within the parkway.

**Conclusion.** There would continue to be long-term minor to moderate adverse impacts to visitor opportunities to experience natural sounds due to loud, excessive, or disturbing noise events, limited education about how visitors can reduce self-noise, and limited interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway. Additionally, some visitors in parkway campgrounds might experience long-term minor to moderate adverse impacts due to unacceptable use of generators or experience unsatisfactory perceptions of generator noise. Overall, there would be long-term negligible adverse impacts to visitor opportunities to experience natural soundscapes when the effects of alternative A are added to the enhanced recreation and resource protection activities. Additionally, there would be short-term and long-term negligible to moderate adverse impacts to visitor opportunities to experience natural soundscape when the impacts of alternative A are added to the effects of residential and commercial development and road construction and improvements.

## **Alternative B (NPS Preferred)**

**Parkway-wide.** Under alternative B, the parkway would have formal management strategies for soundscapes. There would be an increase in visitor contacts and the use of interpretive information pertaining to soundscapes. Possible indirect management strategies include identifying quiet zones, encouraging visitors to be aware of self-noise and how it affects others, discouraging the use of modified exhaust systems on motorcycles, and working with federal, state, and local agencies to reduce noise. Direct management strategies include stricter enforcement of rules and regulations (including 36 CFR 2.12), consideration of permits for organized group rides or events passing through the parkway and the reduction of parkway maintenance noise especially in sensitive areas or at ecologically sensitive times. However, some visitors would continue to submit complaints about excessive or disturbing noise. The types of activities that generate complaints include motorcycle noise and RV (generator) noise in the campgrounds. As a result of the above strategies, there would be long-term minor to moderate beneficial impacts to visitor opportunities to experience natural sounds due to possible reduction of loud, excessive, or disturbing noise events, increased education about how visitors can reduce self-noise, and improved interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway.

**Parkway Segments.** The individual parkway segments would not experience more specific impacts than those described under the parkway-wide and recreation areas sections. Therefore, analysis conducted within the aforementioned sections applies to all parkway segments.

**Recreation Areas.** Compared to alternative A, campgrounds under alternative B would be quieter. Under alternative B, all RV sites would be upgraded with water and electrical hookups, except for Roanoke Mountain. Roanoke Mountain would be converted to a day use area; therefore, noise from RVs would

no longer be an issue. At RV camping sites with new electrical hookups, visitors with RVs would be less likely to use their generators in the campground, decreasing likelihood of disturbance to other visitors. Under alternative B, visitors would be encouraged to observe quiet hours and there would be increased interpretive material available pertaining to the benefits of natural soundscapes. Therefore, some visitors in parkway campgrounds would experience long-term minor to moderate beneficial impacts due to reduced noise from generators and increased opportunities to experience natural sounds.

**Cumulative Impacts.** Past, present, or reasonably foreseeable actions may affect visitor opportunities to experience natural soundscapes. Based on responses from the 29 counties that represent the regional influence, those actions include recreation and tourism enhancements, residential and commercial developments, road constructions and improvements, and resource protection activities. Possible impacts from recreation and tourism enhancements include development of greenways, bike trails, and other recreation opportunities that would allow visitors more access to natural areas and experiences of natural sounds. For example, increased stream access would allow visitors to hear the sounds of flowing water. Nearby residential and commercial developments could increase the percentage of time that human caused noise is audible from the parkway. For example, the development of wind power may increase the audibility of low-frequency noise which is emitted from wind turbines. Additionally, actions associated with road construction may cause short-term disruptions and increased noise. However, developments of new highways would cause long-term increases in the amount of noise that would be audible in certain locations of the parkway. Finally, resource protection activities would help preserve the natural soundscape of the parkway by providing a buffer from extrinsic noise. For example, conservation easements would prevent the conversion of farmlands to residential developments, thereby decreasing

the amount of extrinsic noise in proximity to the parkway.

There would be beneficial impacts to visitors from an increase in opportunities to experience natural soundscapes from recreation and tourism enhancements and resource protection activities. There would be adverse impacts to visitor opportunities to experience natural soundscapes from residential and commercial developments and road construction and improvements.

Overall, there would be long-term moderate beneficial impacts to visitor opportunities to experience natural soundscapes when the effects of alternative B are added to the enhanced recreation and resource protection activities. However, there would also be short-term and long-term negligible to minor adverse impacts to visitor opportunities to experience natural soundscapes when the impacts of alternative B are added to the effects of residential and commercial development and road construction and improvements. Overall, NPS management under alternative B would contribute a considerable amount to beneficial cumulative effects and a small amount to adverse cumulative effects.

**Conclusion.** There would be long-term minor to moderate beneficial impacts to visitor opportunities to experience natural sounds due to possible reduction of loud, excessive, or disturbing noise events, increased education about how visitors can reduce self-noise, and improved interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway. Some visitors in parkway campgrounds might experience long-term minor to moderate beneficial impacts due to reduced use of generators and increased opportunities to experience natural sounds. Roanoke Mountain campground would be converted to a day use area and noise complaints related to generator noise would no longer apply. Due to improved education on the importance of natural soundscapes, there would be long-term minor beneficial impacts to visitor opportunities to experience

natural soundscapes in the campgrounds. Overall, there would be long-term moderate beneficial impacts to visitor opportunities to experience natural soundscapes when the effects of alternative B are added to the cumulative impacts of enhanced recreation and resource protection activities. However, there would also be short-term and long-term negligible to minor adverse impacts to visitor opportunities to experience natural soundscapes when the impacts of alternative B are added to the cumulative effects of residential and commercial development and road construction and improvements.

### **Alternative C**

**Parkway-wide.** Under alternative C, the parkway would have formal management strategies for soundscapes. There would be an increase in visitor contacts and the use of interpretive information pertaining to soundscapes. Possible indirect management strategies include identifying quiet zones, encouraging visitors to be aware of self-noise and how it affects others, discouraging the use of modified exhaust systems on motorcycles, and working with federal, state, and local agencies to reduce noise. Direct management strategies include stricter enforcement of rules and regulations (including 36 CFR 2.12), consideration of permits for organized group rides or events passing through the parkway, and the reduction of parkway maintenance noise especially in sensitive areas or at ecologically sensitive times. However, some visitors would continue to submit complaints about excessive or disturbing noise. The types of activities that generate complaints along the parkway include motorcycle noise and RV (generator) noise in the campgrounds. As a result of the above strategies, there would be long-term minor to moderate beneficial impacts to visitor opportunities to experience natural sounds due to possible reduction of loud, excessive, or disturbing noise events, increased education about how visitors can reduce self-noise, and improved interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway.

**Parkway Segments.** Individual parkway segments would not experience more specific impacts than those described under the parkway-wide and recreation areas sections. Therefore, analysis conducted within the aforementioned sections applies to all parkway segments.

**Recreation Areas.** Under alternative C, all RV sites would be upgraded with water and electrical hookups. At RV camping sites with new electrical hookups, visitors with RVs would be less likely to use their generators in the campground, decreasing the likelihood of noise disturbance to other visitors. Therefore, some visitors in the parkway campgrounds might experience long-term minor to moderate beneficial impacts due to reduced noise from generators and increased opportunities to experience natural sounds. Under alternative C, visitors would be encouraged to observe quiet hours and there would be increased interpretive materials available pertaining to the benefits of natural soundscapes. Due to increased availability of education materials, there would be long-term minor beneficial impacts to visitor opportunities to experience and understand the importance of natural soundscapes.

**Cumulative Impacts.** Past, present, or reasonably foreseeable actions may affect visitor opportunities to experience natural soundscapes. Based on responses from the 29 counties that represent the regional influence, those actions include recreation and tourism enhancements, residential and commercial developments, road constructions and improvements, and resource protection activities. Possible impacts from recreation and tourism enhancements include development of greenways, bike trails, and other recreation opportunities that would allow visitors more access to natural areas and experiences of natural sounds. For example, increased stream access would allow visitors to hear the sounds of flowing water. Nearby residential and commercial developments could increase the percentage of time that human caused noise is audible from the parkway. For instance, the development of wind power may increase the audibility of

low-frequency noise which is emitted from wind turbines. Additionally, actions associated with road construction may cause short-term disruptions and increased noise. However, developments of new highways would cause long-term increases in the amount of noise that would be audible in certain locations of the parkway. Finally, resource protection activities would likely help preserve the natural soundscape of the parkway by providing a buffer from extrinsic noise. For example, conservation easements would prevent the conversion of farmlands to residential developments, thereby decreasing the amount of extrinsic noise in proximity to the parkway.

There would be beneficial impacts to visitor opportunities to experience natural soundscapes from recreation and tourism enhancements and resource protection activities. There would be adverse impacts to visitor opportunities to experience natural soundscapes from residential and commercial developments and road construction and improvements. Overall, there would be long-term moderate beneficial impacts to visitor opportunities to experience natural soundscapes when the effects of alternative C are added to the enhanced recreation and resource protection activities. However, there would also be short-term and long-term negligible to minor adverse impacts to visitor opportunities to experience natural soundscape when the impacts of alternative C are added to the effects of residential and commercial development and road construction and improvements. Overall, NPS management under alternative C would contribute a considerable amount to beneficial cumulative effects and a small amount to adverse cumulative effects.

**Conclusion.** There would be long-term minor to moderate beneficial impacts to visitor opportunities to experience natural sounds due to possible reduction of loud, excessive, or disturbing noise events, increased education about how visitors can reduce self-noise, and improved interpretive materials for visitors seeking to learn more about the natural soundscapes of the Blue Ridge Parkway. Some visitors in the parkway campgrounds may experience long-term minor to moderate beneficial impacts due to reduced use of generators and increased opportunities to experience natural sounds. Due to improved outreach, there would be long-term minor beneficial impacts to visitor opportunities to experience and understand the importance of natural soundscapes in the campgrounds. Overall, there would be long-term moderate beneficial impacts to visitor opportunities to experience natural soundscapes when the effects of alternative C are added to the cumulative impacts of enhanced recreation and resource protection activities. However, there would also be short-term and long-term negligible to minor adverse impacts to visitor opportunities to experience natural soundscapes when the impacts of alternative C are added to the cumulative effects of residential and commercial development and road construction and improvements.

# TRAFFIC AND TRANSPORTATION

## INTRODUCTION

This analysis describes impacts on traffic and transportation from the management alternatives at two different scales: a parkway-wide analysis, which describes the overall effect of broad programmatic actions, and a parkway segment and recreation area analysis, which looks at more site-specific impacts on the parkway's 7 segments and 15 recreation areas.

This section has been organized by the impact topics listed, which correspond to the topics described in "Chapter 3: Affected Environment." Similar topics have been grouped together to limit redundancy and to present the analysis in the most understandable and concise means possible.

## METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

Impacts on Traffic and Transportation include

- vehicular access (related to potential grade separations or driveway limitations)
- future traffic volumes and levels of service
- traffic mix (cars / motorcycles / bicycles / RVs)
- traffic-related safety
- parking conditions
- alternative transportation modes

Impacts have been assessed in regards to what effect the management actions of each alternative would have on recreational users of the parkway. As an example, elements of an alternative that are expected to reduce nonrecreational traffic in parts of the parkway by replacing at-grade intersections with grade separations, are described as having a beneficial impact. This is because it improves conditions for recreational users. The

resulting negative impacts for nonrecreational users would not be considered as adverse impacts, because accommodating these users is not part of the parkway's mission. Impacts are assessed in the context of traffic and transportation conditions during the parkway's peak seasons, which include the summer travel season from July through August and the viewing of fall leaves in October.

Traffic forecasts for the Blue Ridge Parkway were projected from traffic counts that were obtained in 2002 (DEA 2002). With no entrance fees, the parkway handles a relatively large amount of nonrecreation trips as local residents use the parkway road for commuting or personal business. Local traffic on the parkway occurs in the urban as well as in the rural areas where the parkway may be the most direct route or where there are fewer desirable alternate routes. These nonrecreation trips are included in the existing traffic counts along the parkway.

Trip purpose was estimated from roadside surveys collected in August 2002 (DEA 2002). Recreational trips make up the majority of trips along the parkway, but nonrecreational trips make up a substantial amount of the traffic traveling the parkway in particular areas. Considering the relatively high amount of nonrecreational trips on the parkway in some areas, these trips were projected separately from the recreational traffic volumes. Nonrecreational trips were separated from the recreational trips and a different growth rate was applied to the volumes based on expected changes in local population and traffic growth surrounding the parkway. Traffic forecasts were estimated using growth rates applied to the existing (2002) average peak season traffic volume at each parkway and intersection location. The growth rate used at each location considered the expected population growth of the surrounding area and the types of trips normally found at that location (recreational versus nonrecreational).

The historic traffic counts, and therefore, visitation estimates vary widely from year to year. High and low volume years could be a factor of economic, social, and other conditions, such as weather, local and national economy, regional events, road construction, and mechanical counter malfunction. Considering these anomalies, calculations for time periods between 5 and 10 years were made to estimate a reasonable historical growth rate for each location. This growth rate was applied to the recreational traffic volumes along the parkway.

Growth rates for the nonrecreational traffic along the parkway were found from county population trends and forecasts documented in the *Socioeconomic Atlas for Blue Ridge Parkway and its Region* (NPS 2003). Updated socio-economic data, obtained from the states of Virginia (2007a, b) and North Carolina (2008a, b), were also incorporated into these projections. This estimate assumes that the average per-person frequency of accessing the parkway for nonrecreational use would remain generally the same across the forecast period. The population forecasts shown in the socioeconomic report were modified prior to applying the growth rates to the nonrecreational traffic volumes to account for the differences in topography and access to the parkway in each segment. For example, there is over 31% growth in population identified for the counties surrounding the Pisgah segment (NPS 2003), which translates to a 2.7% annual growth rate. However, the annual growth rate was adjusted for nonrecreational travel to account for the geographic constraints and limited access to the parkway in the area.

The baseline annual growth rates for each study segment are shown in table 54. As explained previously, different annual growth rates were determined for recreational and nonrecreational trips by study segment.

To evaluate the impacts of each alternative, 2020 weekday and weekend roadway segment and intersection traffic volumes were estimated for each alternative based on proposed changes to the roadway network

(i.e., access modifications), changes in parking conditions, changes to recreation areas, and estimated reductions in automobile trips due to transit service.

**TABLE 54. BASELINE ANNUAL GROWTH RATES FOR PARKWAY TRAFFIC FORECASTS**

Study Segment	Annual Growth by Trip Purpose	
	Recreational	Nonrecreational
Ridge	1.9%	0.6%
Roanoke	1.1%	0.3%
Plateau	1.0%	0.5%
Highlands	1.7%	0.4%
Black Mountains	1.0%	0.8%
Asheville	1.7%	1.2%
Pisgah	1.7%	1.2%

Source: Calculations by DEA.

A visitor use and carrying capacity study was conducted in August 2002 and documented in the *Visitor Survey Study Completion Report for the Blue Ridge Parkway* (December 2002) to determine the visitor acceptability of different level of service traffic conditions along the parkway during a typical summer weekend. Visitor satisfaction related to the traffic volumes and levels of service experienced while traveling along the parkway were also measured. The results indicate that any operation at or below level of service C is unacceptable for parkway visitor experience (DEA 2004). Using the results of the 2002 study, expected effects to visitor satisfaction along the parkway was considered with the 2020 traffic volumes, levels of service, and proposed modifications to the recreation areas under each alternative.

It is expected that alternatives that would provide more amenities for RVs would attract more RV drivers to the parkway, which would impact traffic conditions on the parkway. Large changes in the traffic mix may also impact the vehicular safety along the parkway. Each alternative was evaluated on the basis of its expected impact on vehicular safety, including the potential for increasing or reducing traffic-related accidents.

Evaluating the existing parking conditions and traffic growth estimates for year 2020,

expected parking use at recreational areas was considered with the proposed parking changes under each alternative. Each alternative was also evaluated on the basis of its expected impact on the usage of alternative modes of transportation (primarily public or private buses or shuttles) to access and travel along the parkway.

The following impact thresholds have been developed for analyzing the effects of the alternatives on traffic and transportation.

**Negligible:** The impact would be a change that would not be perceptible or would be barely perceptible by recreational travelers of the parkway.

**Minor:** The impact would have a slight adverse or beneficial change to travel time or delay. The impact would be noticeable, but would result in little inconvenience or benefit to recreational travelers of the parkway.

Impacts on vehicular safety could be realized through a slight increase or decrease in the potential for vehicular conflicts. The impact would be measurable or perceptible and it would be limited to a relatively small number of visitors at local areas.

**Moderate:** The impact would affect a large number of recreational travelers of the parkway and it would result in a noticeable change in travel time, delay, convenience, or benefit.

The impact on vehicular safety would be sufficient to cause an increase or decrease in accident rates at existing high accident locations or to create the potential for additional vehicular conflicts in areas that do not currently exhibit noticeable vehicular conflict trends.

**Major:** There would be a substantial impact on a large number of recreational travelers of the parkway and it would result in a highly

noticeable change in travel time, delay, convenience, or benefit.

The impact on vehicular safety would be substantial either through the elimination of potential hazards or the creation of them.

## **ALTERNATIVE A—NO-ACTION**

### **Parkway-wide**

Alternative A represents a continuation of current management direction. The parkway would continue to be managed primarily as a scenic recreational driving experience and designed landscape to provide visitors an uninterrupted, primarily self-contained drive, with parkway amenities along the way. However, continued development along the parkway outside the parkway's jurisdiction would detract from the idyllic mountain driving experience. Scenic quality of views along the parkway would be lost as rural farm and undeveloped forest landscapes continue to undergo commercial and residential development. Visitors at the busiest recreation areas during the summer peak weekends have noted traffic congestion and difficulty finding a parking space as two of the parkway's biggest problems. Under alternative A, these conditions would worsen due to projected increases in visitation over time. Nonrecreational traffic would continue to increase with increased urban growth, compounding the congestion issues that currently frustrate recreational visitors. This is addressed in more detail under "Cumulative Effects," below.

Traffic forecasts for alternative A are shown in table 55. Average peak season daily traffic volumes were estimated for the weekday and weekend conditions in 2010, 2015, and 2020. The growth rates for each segment consider the variation of trip type at each location and the different growth rates for the recreational and nonrecreational trips.



**TABLE 55. PEAK SEASON AVERAGE DAILY 2020 TRAFFIC CONDITIONS - ALTERNATIVE A**

Segment	Weekday Daily Volume (vehicles/day)			Weekend Daily Volume (vehicles/day)			2020 Weekend Level of Service
	2010	2015	2020	2010	2015	2020	
Ridge	1,940	2,090	2,250	2,200	2,380	2,560	B
Roanoke	940	980	1,010	1,260	1,300	1,350	A
Plateau	850	890	920	1,950	2,030	2,110	B
Highlands	2,840	3,040	3,260	3,790	4,070	4,360	C
Black Mountains	1,680	1,770	1,860	2,400	2,520	2,650	B
Asheville	1,710	1,860	2,020	2,430	2,640	2,880	B
Pisgah	1,220	1,320	1,430	2,800	3,030	3,280	B

Source: Calculations by DEA and traffic counts by TRA in August 2002.

Alternative A is based on current management approaches and trends. These approaches include substantial guidance from the original Parkway Land Use Maps. The maps do not include management zones. As part of this alternative, the parkway would continue to acquire interests in lands adjoining the parkway boundary from willing sellers to eliminate private road accesses, protect high quality scenic views, and better manage the boundary. These acquisitions are part of an approved overall land protection strategy. Management of these acquired parcels by the parkway would eliminate the added nonrecreational traffic that would be associated with potential residential or commercial developments on those parcels. This would result in a slight beneficial reduction in traffic delay and a slight decrease in the potential for vehicular conflicts. Only a small number of visitors in local areas would be affected. This would result in beneficial local long-term minor impacts on traffic volume, level of service, and traffic safety conditions.

As part of this alternative, the parkway would continue to cyclically cut vistas currently on the vista inventory for scenic viewing purposes. About 10% of the original vista locations are no longer being maintained. Decisions to eliminate a vista or open up a new one have occurred over time in a piecemeal fashion. Parkway staff has not developed a comprehensive parkwide approach for vista management. Without a

flexible management strategy in place to guide modifications of these historic locations, the parkway would not have the ability to provide alternate locations when it may be advisable to relocate them for reasons of traffic safety. As a result, there would be the potential for adverse local long-term minor impacts in the area of traffic safety conditions.

No additional constraints would be placed on nonrecreational local and commuter traffic. Traffic volumes associated with these trip purposes would continue to increase as rural and urban lands adjacent to the parkway are developed for residential and commercial purposes, outside the potential parkway land acquisitions described earlier. As this alternative would not include access modifications, there would be no measurable impact in the area of vehicular access. There would be adverse local long-term minor to moderate impacts on traffic volumes, level of service, and traffic safety conditions.

Certain campground comfort stations would be upgraded to provide showers and universal accessibility. Improvements to this campground amenity would be expected to increase campground use somewhat, although this is only one of many factors in the decision-making process for potential overnight visitors. This would result in adverse local long-term negligible impacts on traffic volumes, level of service, and traffic safety conditions.

Short-term impacts on traffic and transportation would occur from ongoing maintenance and traffic control activities. As the parkway road requires repair, vehicular access, level of service, traffic mix, and traffic-related safety would be adversely affected as construction crews close sections of the parkway or reroute traffic around work areas. At congested parking areas parkway staff may need to implement temporary traffic control measures, such as directing traffic to other parking lots or closing lots when full, adversely affecting vehicular access and parking conditions until the issue subsides. Depending on the location and extent of the maintenance work or congestion, these impacts would be noticeable but of little inconvenience, or would affect a large number of travelers, resulting in a noticeable change in travel, time, delay, convenience, or benefit. Therefore, short-term impacts would be local, adverse, and minor to moderate. Mitigation measures, such as implementing a traffic control plan, would reduce adverse impacts on minor where construction activities would occur.

### **Parkway Segments and Recreation Areas**

Only those parkway segments and recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segment 4: Highlands.** The largest volumes along the parkway are projected for the Highlands segment, with 2020 daily volumes of 3,260 vehicles per day on the weekdays and 4,360 vehicles per day on the weekends. The segment would operate at level of service C during the peak season weekends, which falls below the level of acceptable conditions for the visitor's driving experience according to the results of the 2002 visitor use and carrying capacity study. However, no congestion problems would be expected at the intersections that provide access to the parkway in this segment with all intersections projected to operate at level of service B or better. Long-term impacts would be adverse,

local, and minor to traffic volumes, level of service, and traffic safety conditions during peak season weekends.

**Segment 6: Asheville.** The highest growth in traffic volumes along the parkway is projected for the Asheville segment, with an annual growth rate of 1.7%. The segment would operate at level of service B. The intersection with the highest delay along the parkway would be in this segment at the south intersection with U.S. 74 in the southeast part of Asheville. The average delay during the PM peak hour of a peak season weekend would be about 30 seconds per vehicle and the intersection would operate at level of service D, which is below the acceptable level for visitor experience and would result in adverse local long-term minor impacts on traffic volumes, level of service, and traffic safety conditions.

**Segment 7: Pisgah.** This segment has a number of popular overlooks. The most crowded parking conditions are at the 30-space lot at the Graveyard Fields Overlook (milepost 416), which currently operates over-capacity on peak season weekends. Future increases in traffic volumes would intensify this parking issue, resulting in adverse local long-term minor impacts. The 30-space lot at the Looking Glass Rock Overlook (milepost 413) is currently underused with a weekend occupancy rate estimated at about 35%. The Waterrock Knob Visitor Center (milepost 451) has a large 110-space lot that is also currently underused with a weekend occupancy rate of about 40%. For these reasons, continuation of current management practices would likely have no measurable effect on parking conditions at these locations.

**Moses H. Cone Memorial Park.** The Moses H. Cone Memorial Park Visitor Center (milepost 293) in the Highlands segment has a 45-space lot that currently operates over-capacity on peak season weekends. Because this recreation area is being addressed under a separate management planning study, the future impacts of the alternatives will not be

addressed as part of this parkway-wide general management plan.

**Peaks of Otter.** The Peaks of Otter Recreation area (milepost 85) in the Ridge segment has a 29-space lot that is currently operating near-capacity on peak season weekends. Future increases in traffic volumes would intensify this parking issue that would be barely perceptible or noticeable but of little inconvenience for travelers, resulting in adverse local long-term negligible to minor impacts.

**Linville Falls.** The Linville Falls Visitor Center (milepost 315) in the Black Mountains segment has an 85-space lot that currently operates at capacity on peak season weekends. Future increases in traffic volumes would intensify this parking issue to be noticeable but of little inconvenience for travelers, resulting in adverse local long-term minor impacts.

### **Cumulative Effects**

Several counties and municipalities adjacent to the parkway have implemented or are planning to undertake a variety of recreation and tourism initiatives to grow local economies. Several counties also anticipate substantial new residential developments. These actions would draw more visitors and residents overall, impacting vehicular access, increasing future traffic volumes, degrading level of service, and increasing traffic-related safety issues. These effects would be particularly evident in areas such as the Highlands and Asheville segments, which experience the largest parkway volumes and largest growth rates, respectively. Safety issues related to traffic mix could also increase as more recreational drivers share the roads with local and commuter drivers. Increased tourism would contribute to deterioration of parking conditions in the parkway, especially in those segments that experience overcrowding at parking areas, such as Pisgah and Linville Falls.

Some local efforts would beneficially affect traffic volumes. Many state and local plans call for widening of highways and improvements to transportation systems in certain areas near or crossing the parkway, particularly in Roanoke and North Carolina. Other counties also plan to construct new roads or implement deferred maintenance projects. In addition, resource protection activities occurring on surrounding lands would preserve those areas and remove them from the possibility of development, which would help control development to a limited extent in specific areas. These activities would help offset some of the effects of increased traffic volumes, particularly related to traffic-related safety and level of service, resulting in long-term beneficial impacts that would vary in intensity depending on location.

The actions described previously would combine with those the parkway would conduct under alternative A that are expected to have minor adverse and beneficial long-term impacts. The resulting cumulative impacts on vehicular access, future traffic volumes and level of service, traffic mix, traffic-related safety, and parking would be long-term adverse and beneficial, local, and vary from minor to moderate.

### **Conclusion**

Short-term impacts would occur from ongoing maintenance and traffic control activities. As the parkway road requires repair, vehicular access, level of service, traffic mix, and traffic-related safety would be adversely affected by construction-related closures or reroutes. At congested parking areas, parkway staff may need to implement temporary traffic control measures. Depending on the location and extent of these activities, short-term impacts would be local, adverse, and minor to moderate.

Parkway-wide beneficial local long-term minor impacts on traffic volume, level of service, and traffic safety would result from acquisition of adjacent land, by eliminating some additional nonrecreational traffic

associated with nearby development. Adverse local long-term minor impacts would result from the lack of a vista management strategy, which would hamper the parkway's ability to relocate scenic vistas based on traffic safety reasons. As traffic volumes associated with nonrecreational local and commuter traffic increases, adverse local long-term minor to moderate impacts on traffic volumes, level of service, and traffic safety would occur. Increased use of campgrounds would also result in adverse local long-term negligible impacts on traffic volumes, level of service, and traffic safety.

Individual segments and recreation areas would experience adverse local long-term minor impacts, mostly related to high traffic volumes, which would affect traffic volumes, level of service, and traffic safety. Some segments and recreation areas would experience over-capacity issues, particularly affecting parking areas, resulting in adverse local long-term negligible to minor impacts on traffic volumes, level of service, and traffic safety.

Cumulative impacts on vehicular access, future traffic volumes, level of service, traffic mix, traffic-related safety, and parking would be long-term adverse and beneficial, local, and minor to moderate. These impacts would result from combining the adverse impacts of local recreation and tourism initiatives that would draw more visitors and residents to the area, the beneficial impacts of state and local highway and transportation improvements, and the minor adverse and beneficial impacts of the actions planned under alternative A.

## **ALTERNATIVE B (NPS PREFERRED)**

### **Parkway-wide**

Alternative B would provide an emphasis on the original parkway design and traditional driving experience, while enhancing outdoor recreational opportunities and regional

natural resource connectivity. This alternative emphasizes a commitment to continuation of traditional visitor services, such as hiking, picnicking, and campground facilities, and commercial services for food, lodging, and sales. A majority of the developed, frontcountry portions of recreation areas would be zoned historic parkway and a majority of the backcountry portions would be zoned recreation. This zoning approach focuses on providing recreational opportunities that are dispersed in the recreation zone. To enhance outdoor recreational opportunities, 7,751 acres parkway-wide—9.4% of the parkway's total area—would be zoned recreation.

Recreational opportunities would focus on the outdoors and include organized group programs, self-guiding interpretation, nature observation, picnicking, hiking, backpacking, viewing natural and cultural resources, photography, exploring, and backcountry camping. Trails in the Blue Ridge Parkway would be modified to better link visitor use sites with parkway recreation areas. Where appropriate, horseback riding would be allowed on certain designated trails. The Historic Parkway Zone in the majority of the frontcountry areas would result in minimal changes from the alternative A condition.

The enhanced recreational opportunities and upgrades to visitor services would be expected to attract more visitors and increase visitation along the parkway, particularly in areas near the population centers of Roanoke and Asheville. The changes would also encourage longer stays at a recreation area and draw users farther away from the roadway into the backcountry. Although the primary elements of alternative B involve improvements to specific locations, such as recreation areas, visitors would typically be required to travel substantial portions of the parkway segments to get to their desired destinations. Traffic forecasts for alternative B are shown in table 56.

**TABLE 56. PEAK SEASON AVERAGE DAILY 2020 TRAFFIC FORECASTS - ALTERNATIVE B**

Segment	Weekday Daily Volume (vehicles/day)		Weekend Daily Volume (vehicles/day)		2020 Weekend Level of Service
	2020	Increase from Alternative A	2020	Increase from Alternative A	
Ridge	2,320	70	2,860	300	B
Roanoke	1,030	20	1,590	240	A
Plateau	920	0	2,280	170	B
Highlands	3,260	0	4,710	350	C
Black Mountains	1,910	50	2,900	250	B
Asheville	2,060	40	3,530	650	B
Pisgah	1,490	60	3,740	460	B

Source: Calculations by DEA.

Visitors from the local and regional population centers around the Blue Ridge Parkway who would be drawn to the enhanced recreational opportunities along the parkway are more likely to visit on a weekend than on a weekday. Therefore, the greatest differences between weekday and weekend growth rates would be in the Roanoke and Asheville segments.

It is estimated that weekday recreational traffic would increase by about 3% to 5% as compared to alternative A, with the greatest increases in the end segments due to their proximity to the largest portions of the regional population base within a day's drive from the parkway. Because new grade separations would be constructed that would remove access to the parkway at some existing public road intersections, it is assumed that nonrecreational traffic on both weekdays and weekends would decrease by as much as 10%, with the greatest decreases in the Plateau and Highlands segments which have the greatest number of secondary road accesses. It is estimated that weekend recreational traffic would increase by 10% to 25% as compared to alternative A, with the greatest increases in the Roanoke and Asheville segments because the enhanced recreational opportunities would draw most day use visitors from these regional population centers.

Visitor services would be expanded from six months to nine months as part of this alternative. This would draw more visitors to

the parkway, although over a dispersed time frame. The proposed change in length of operating season would not be expected to produce any appreciable difference in parkway visitation during the peak season months and there would be no measurable impacts.

Historic overlook and roadside vistas would be maintained and some closed roadside vistas would be reestablished in accordance with the historic designed landscape illustrated on the Parkway Land Use Maps and some new overlook or parking areas may be added. Adding these overlooks or parking areas along the parkway would add access points and slightly increase traffic turning movement conflicts. For this reason, there would be local long-term minor adverse impacts on traffic safety conditions. These new overlooks or parking areas would also have the potential to address parking shortages at other overlooks and parking areas by adding new parking that would disperse visitors and by discouraging motorists from stopping on the side of the parkway at unsafe locations. As a result, there would be the potential for local long-term minor beneficial impacts on parking and traffic safety conditions.

Alternative B would provide some management of nonrecreational local and commuter traffic by replacing some at-grade intersections with new grade separation structures (either with or without indirect parkway access). Removing access at existing

intersections where an appreciable amount of nonrecreational local and commuter traffic is known to access the parkway would reduce conflicts for recreational traffic along that section of the parkway. The grade separations would result in local long-term negligible adverse impacts in the area of vehicular access (due to providing less direct access for recreational travelers) and local long-term minor to moderate beneficial impacts on traffic volumes, level of service, and traffic safety conditions.

Select comfort stations would be upgraded to provide showers and universal accessibility at all campgrounds (except Roanoke Mountain). Selected tent sites would also be enlarged to better accommodate family sized tents. Recreational vehicle sites would be upgraded to include water and electrical hookups but RV access would only be improved at three campgrounds (Peaks of Otter, Doughton Park, and Julian Price Park). These improvements to campground amenities would be expected to increase campground use more than alternative A resulting in local long-term minor adverse impacts on traffic volumes, level of service, and traffic safety conditions. It would also result in local long-term minor adverse impacts in the area of traffic mix, due to the increased volumes of RVs that may occur over time.

Short-term impacts would be similar to alternative A. The enhanced recreational opportunities would accommodate more visitors and increase visitation along the parkway. Building grade separated structures and overflow parking would increase the amount of construction and repair activities. Alternative B's zoning approach would focus on providing more dispersed recreational opportunities, thus potentially reducing congestion at parking areas as visitors become less concentrated at popular sites, with a comparable reduction in the need for traffic control measures. Depending on the location and extent of the maintenance work or congestion, these impacts would be noticeable but of little inconvenience, or would affect a large number of travelers, resulting in a noticeable change in travel, time, delay,

convenience, or benefit. Therefore, short-term impacts would be local, minor to moderate, and adverse. Mitigation measures, such as implementing a traffic control plan, would reduce adverse impacts where construction activities would occur.

### **Parkway Segments and Recreation Areas**

Only those parkway segments and recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

#### **Segments 1 and 2: Ridge and Roanoke.**

As part of this alternative, slight modifications would be made to overlook landscaping, as necessary, to improve overlook visibility by passing traffic. While this action would be primarily provided to improve personal safety, it would also improve traffic safety where the sight distance would be improved for vehicles pulling out to the parkway. This would result in local long-term minor beneficial impacts in traffic safety conditions.

**Segment 4: Highlands.** The largest volumes along the parkway are projected for the Highlands segment, with 2020 daily volumes of 3,260 vehicles per day on the weekdays and 4,710 vehicles per day on the weekends. The weekday volume forecast shows no change from alternative A due to two competing factors. It is expected that the addition of new grade separation structures would decrease the nonrecreational traffic volumes while the enhanced recreational opportunities would increase the recreational traffic volumes slightly. Because about 80% of the overall traffic in this segment is recreational, the increase in recreational volume is projected to be offset by the decrease in nonrecreational traffic.

The segment would operate at level of service C during the peak season weekends, which falls below the level of acceptable conditions for the visitor's driving experience according to the results of the 2002 visitor use and carrying capacity study. However, no

congestion problems would be expected at the intersections that provide access to the parkway as part of this alternative with all intersections projected to operate at level of service B or better. Long-term impacts would be local, minor, and adverse to traffic volumes, level of service, and traffic safety conditions on peak season weekends.

**Segment 6: Asheville.** The highest growth in traffic volumes along the parkway is projected for the Asheville segment, with an annual growth rate of 1.9% on weekdays and 3.4% on weekends. These increases are a combination of the expected growth of the Asheville area population, which is relatively high as compared to the other segments, and the enhanced recreational opportunities that are part of this alternative. The segment would operate at level of service B.

The intersection with the highest delay along the parkway would be in this segment at the south intersection with U.S. 74 in the southeast part of Asheville. The average delay during the PM peak hour of a peak season weekend would be about 75 seconds per vehicle and the intersection would operate at level of service F, which is below the acceptable level for visitor experience and would result in local long-term moderate adverse impacts on traffic volumes, level of service, and traffic safety conditions. The addition of turn lanes at the intersection would mitigate the delay experienced by a large number of recreational travelers, reducing the adverse impacts on traffic safety conditions from moderate to minor. The adverse impacts on traffic volumes and level of service would remain moderate with the addition of turn lanes at the intersection.

As part of this alternative, new parking facilities for recreational use would be added at locations along the parkway where illegal roadside parking currently occurs. These areas currently have recreational attractions, such as backcountry trail crossings, but no legal places to park. Illegal roadside parking causes traffic safety and traffic flow issues, with parked cars potentially encroaching on the already narrow parkway width, drivers

opening car doors into the parkway driving lanes and drivers making u-turn maneuvers. Providing a solution to these problems would outweigh the increased traffic volumes the added parking may create, resulting in a local, long-term moderate beneficial impact on level of service, traffic safety conditions, and parking.

**Segment 7: Pisgah.** As part of this alternative, water and electrical hookups would be added to existing RV sites at the Mt. Pisgah Campground. The impact of the potential increase in RV volumes associated with these improvements would be moderate in this segment, which includes 17 of the parkway's 26 tunnels. A number of these tunnels have among the lowest vertical clearances along the parkway. Larger RVs would have a tendency to move towards the center of the tunnels, decreasing their potential to run into the tunnel lining but increasing the accident potential with oncoming traffic. This would result in local long-term moderate adverse impacts on traffic mix, traffic safety, traffic volumes, and level of service.

This segment has a number of popular overlooks. The 30-space lot at the Graveyard Fields Overlook (milepost 416) would operate over-capacity on peak season weekends under alternative A. There would be increased traffic volume in this segment. During peak season weekends associated with alternative B, but this would be offset by the provision of added overflow parking. As a result, there would be local long-term minor beneficial impacts in the area of parking.

**Peaks of Otter.** Enhanced recreational opportunities under alternative B at this recreation area would increase parking demand and visitor length of stay on peak season weekends but this would be offset by the provision of added overflow parking. As a result, there would be local long-term minor beneficial impacts in the area of parking.

**Roanoke Mountain.** With its proximity to the Roanoke area, the enhanced outdoor recreational opportunities associated with the

Recreation zoning and new picnic facilities would attract an appreciable amount of new users. (The campground would be converted to a day use area, including picnic and trail staging facilities.) The changes would be noticeable, but would result in little inconvenience. Therefore, there would be local long-term minor adverse impacts on traffic volumes, level of service, and parking.

**Rocky Knob.** The historic Civilian Conservation Corps campsite in Rock Castle Gorge would be zoned Special Cultural Resource. Increased emphasis on this area and interpretation at the site would result in a slight increase in overall visitation. As a result, it is expected that there would be local long-term minor adverse impacts on traffic volumes, level of service, and parking.

**Mabry Mill.** The portion of the Mabry Mill area between the parkway and secondary road VA 603 would be zoned as Historic Parkway as part of this alternative. Within the historic parkway zone, the quality of existing trails and wayside exhibits would be improved and site signs would be upgraded. In the remainder of the site, pedestrian circulation, signs, and wayside exhibits would be redesigned. Additionally, interpretive media would be improved and more diverse presentations of mountain industry would be provided. This would lead to a slight increase in traffic which would result in local long-term minor adverse impacts on traffic volumes, level of service, and parking.

VA 603 would be relocated to improve the safety of visitors crossing the road in this area as part of this alternative. There would be a slight decrease in the potential for vehicular conflicts in a local area. Therefore, this would provide local long-term minor beneficial impacts in traffic safety.

**Blue Ridge Music Center.** Alternative B would expand information and orientation capabilities through partnerships and parkway staff would expand the parkway's active participation in regional tourism projects. It is expected that these efforts would increase usage and cause adverse local long-term

minor impacts on traffic volumes, level of service, and parking.

**Linville Falls.** Enhanced recreational opportunities under alternative B at this recreation area would increase visitor length of stay on peak season weekends, but this would be offset by the provision of added overflow parking. There would be local long-term minor beneficial impacts in the area of parking.

**Craggy Gardens.** Under alternative B the entire area is zoned Special Natural Resources, which limits hiking to designated trails and does not provide other backcountry facilities. The trail to Craggy Pinnacle would be removed and a trail to Craggy Dome would be developed. There is some concern that the proposed Craggy Dome trailhead parking area would not have the same capacity as the existing parking area. There would be no measurable impacts on traffic volumes, but there may be local long-term minor to moderate adverse impact in the area of parking if the proposed lot proves to be too small to accommodate the demand for the new trail.

**Mt. Pisgah.** The size of the campground would be decreased by the closure of all tent camping sites that are directly adjacent to the rare high-elevation bog. A portion of the existing RV sites would be converted to tent camping, but water and electrical hookups would be added to the remaining RV sites. It is expected that the decreased number of RV sites and the improved amenities at the remaining sites would offset each other, with the net result being campground usage with no measurable impacts.

### Cumulative Effects

The parkway would provide additional trail-based recreation opportunities in recreation zones under this alternative, which would accommodate more visitors in the parkway and increase traffic and transportation-related impacts. However, other NPS management actions would help disperse visitors and lessen



crowding. Increased visitation resulting from the parkway's enhanced recreation opportunities, added to the local tourism initiatives, residential development, and increased demand for parkway resources, would affect vehicular access, future traffic volumes and level of service, traffic mix, traffic related safety, and parking conditions to a greater extent than alternative A.

As described for alternative A, highway widening and roadway improvements planned near certain areas of the parkway would have a beneficial effect on traffic volumes and safety conditions. Resource protection activities occurring on surrounding lands would also help control development to a limited extent in specific areas. These actions would be combined with the primarily beneficial effects of the parkway's plans to implement grade separations at certain locations, as described previously. Such actions would be particularly advantageous at large urban centers such as Roanoke, which is expected to experience a 10% to 25% increase in weekend recreational traffic under this alternative.

Alternative B's overall beneficial minor to moderate effects of the grade separations and parking improvements at overlooks and the minor to moderate adverse effects of additional recreational use at the parkway would combine with the adverse and beneficial results of local development, roadway improvements, and resource protection activities that would occur outside the park. Similar to alternative A, the resulting cumulative impacts on vehicular access, future traffic volumes, level of service, traffic mix, traffic-related safety, and parking would be long-term, adverse and beneficial, local, and vary from minor to moderate. However, the overlook parking improvements and grade separations planned under alternative B would increase the level of beneficial effects.

## Conclusion

Short-term impacts would be similar to alternative A. The enhanced recreational

opportunities may increase visitation, and thus, the number of road repairs needed. Alternative B's zoning approach would potentially reduce congestion at parking areas as visitors become less concentrated at popular sites, with a comparable reduction in the need for traffic control measures. Short-term impacts would be local, minor to moderate, adverse.

Parkway-wide, increases in recreational traffic volumes would have the potential for local long-term minor adverse impacts on traffic volumes and level of service where the parkway is removed from local population centers. These impacts increase to minor to moderate where the parkway is closer to local and regional population centers as additional recreational and nonrecreational traffic volumes interact due to expected increased development. There would be beneficial local long-term minor to moderate impacts in the area of parking, based on the assumption that additional parking would be added to existing lots or new overflow lots to accommodate future demand.

Individual segments and recreation areas would accommodate additional visitation, resulting in increased traffic volumes, with associated adverse impacts on level of service, parking, and traffic safety. These impacts would be offset at many areas with the benefits of additional overflow parking. Impacts would be beneficial, local, long-term, and range from minor moderate. Where parking improvements are not prescribed, impacts would be adverse, local, long-term, and minor. Potential increases in RV traffic would be adverse, local, long-term, and moderate in the Pisgah segment, which includes many tunnels with low clearance. At the Asheville segment, the intersection with the highest delay along the parkway would operate at level of service F, resulting in adverse local long-term moderate impacts. The addition of turn lanes at the intersection to mitigate the delay experienced by a large number of recreational travelers would change the traffic safety impacts on minor.

Cumulative impacts would result from a combination of enhanced recreational opportunities that would accommodate more visitors under alternative B with the increased local tourism initiatives, residential development, and increased demand for parkway resources, with adverse effects. Highway grade separations called for under this alternative would combine with local highway and transportation improvements and resource protection activities on adjacent lands, with beneficial effects. Similar to alternative A, cumulative impacts on vehicular access, future traffic volumes, level of service, traffic mix, traffic-related safety, and parking would be long-term, adverse and beneficial, local, and vary from minor to moderate. However, NPS management actions planned under alternative B would increase the level of beneficial effects over alternative A.

## **ALTERNATIVE C**

### **Parkway-wide**

Alternative C would provide the parkway with increased flexibility to manage scenic qualities and regional natural resource connectivity, while enhancing parkway visitor services. Under alternative C, a majority of the developed areas would be zoned visitor services and a majority of the backcountry areas would be zoned Natural. This zoning configuration emphasizes more extensive redesign of infrastructure in the recreation areas to manage for higher levels of concentrated visitor use and puts less emphasis on providing additional recreational opportunities beyond these frontcountry areas. Under alternative C, 24,584 acres parkway-wide—approximately 30% of the parkway—would be zoned Natural and 662 acres parkway-wide—1% of the parkway—would be zoned as Visitor Services. The concentrated visitor services areas would provide a designed setting that supports high levels of use, including a variety of visitor services and overnight accommodations with easy access from the parkway. Visitors would have more opportunities compared to current

conditions to connect to and explore the region's natural and cultural heritage.

For users who primarily visit the parkway for the driving experience, the visitor services designation in the frontcountry areas would increase their likelihood of stopping and, if they stop, would extend their amount of time at the recreation area. The improved amenities within these zones may include increased provision of interpretive programs and visitor contact facilities. The level of usage and average length of stay would increase somewhat compared to alternative A. Visitor use levels would be managed for lower density, dispersed use in natural zone areas to avoid degrading natural resources and values and to provide more opportunities for solitude. It would be expected that natural zone areas would generate fewer trips than if they were zoned recreation.

Because alternative C is primarily geared towards users who visit the parkway for the driving experience, additional visitors attracted by its new improvements would typically travel substantial portions of the parkway segments. Traffic forecasts for alternative C are shown in table 57.

Visitors from the local and regional population centers around the Blue Ridge Parkway who would be drawn to the improved frontcountry attractions along the parkway and the added recreational parking in the Ridge and Asheville segments are more likely to visit on a weekend than on a weekday. As a result, the greatest difference between weekday and weekend growth rates would be in the Ridge and Asheville segments. It is estimated that weekday recreational traffic would increase by about 2% to 4% as compared to alternative A, with the greatest increases in the end segments due to their proximity to the largest portions of the regional population base within a day's drive from the parkway.

Because new grade separations would be constructed that would remove access to the parkway at some existing public road intersections, it is assumed that

nonrecreational traffic on both weekdays and weekends would decrease by as much as 10%, with the greatest decreases in the Plateau and Highlands segments, which have the greatest number of secondary accesses. It is estimated that weekend recreational traffic would increase by 7% to 10% as compared to alternative A, with the greatest increases in the Ridge, Roanoke, Asheville, and Pisgah segments due to the additional recreational parking near Asheville and the improved frontcountry amenities that would be provided along the parkway that would draw day use visitors from the Roanoke and Asheville areas.

Visitor services would be expanded from 6 months to 12 months at select locations as part of this alternative. This would draw more visitors to the parkway, although over a dispersed time frame. The proposed change to a year-round operation would not be expected to produce any appreciable difference in parkway visitation during the peak season months and there would be no measurable impacts.

Vista management in this alternative would be more flexible without strict adherence to the Parkway Land Use Maps. Some traditional roadside vistas might be closed where views had been substantially compromised and might potentially be replaced in new locations where the view could be protected. For the

same reasons, some new overlooks with parking may be added where the quality of the view could be protected.

However, overlook parking areas would not be closed and/or removed but maintenance of the overlook vista may be stopped or cut differently to obscure unsightly views. If the overall number and density of vistas were not increased and the design of the new vistas takes into account good roadway design practices (i.e., not in a sharp curve, away from other access points), there would be no measurable impacts.

Some new overlook or parking areas may be added along the parkway. Adding these overlooks or parking areas along the parkway would add access points and slightly increase traffic turning movement conflicts. For this reason, there would be local long-term minor adverse impacts on traffic safety conditions. These new overlooks or parking areas would also have the potential to address parking shortages at other overlooks and parking areas, by adding new parking that would disperse visitors and by discouraging motorists from stopping on the side of the parkway at unsafe locations. As a result, there would be the potential for beneficial local long-term minor impacts on parking and traffic safety conditions.

**TABLE 57. PEAK SEASON AVERAGE DAILY 2020 TRAFFIC FORECASTS - ALTERNATIVE C**

Segment	Weekday Daily Volume (vehicles/day)		Weekend Daily Volume (vehicles/day)		2020 Weekend Level of Service
	2020	Increase from Alternative A	2020	Increase from Alternative A	
Ridge	2,300	50	2,860	300	B
Roanoke	1,030	20	1,470	120	A
Plateau	920	0	2,230	120	B
Highlands	3,240	-20	4,590	230	C
Black Mountains	1,890	30	2,830	180	B
Asheville	2,050	30	3,400	520	B
Pisgah	1,480	50	3,650	370	B

Source: Calculations by DEA.

New grade separation structures may be potentially added, as in alternative B. Removing access at existing intersections where an appreciable amount of nonrecreational local and commuter traffic is known to access the parkway would reduce conflicts for recreational traffic along that section of the parkway. The grade separations would result in local long-term negligible adverse impacts in the area of vehicular access (due to providing less direct access for recreational travelers) and local long-term minor to moderate beneficial impacts on traffic volumes, level of service, and traffic safety conditions.

Under alternative C, the parkway would work with partners in the parkway urban areas to consider the extension of existing mass transit connections as well as public and private shuttle systems to provide alternative transportation to parkway visitor facilities, where feasible. The dispersed nature of the attractions along the parkway makes it unlikely that new transit services would attract an appreciable amount of ridership. However, transit shuttles to events and educational field trips may be practical applications of alternative modes along the parkway. This would result in local long-term minor beneficial impacts in the area of alternative transportation modes. Impacts on traffic volumes, level of service, and traffic safety conditions are expected to be beneficial, local, long-term, and negligible.

At campgrounds, the same improvements would be provided as in alternative B. In addition, this alternative would include additional upgrades to better accommodate RV access, including widening the campground loop road that provides access to the RV sites at six campground (James River, Peaks of Otter, Rocky Knob, Doughton Park, Linville Falls, and Crabtree Falls). These campground improvements would be expected to increase campground use. This would result in local long-term minor adverse impacts on traffic volumes, level of service, and traffic safety conditions. It would also result in adverse local long-term minor impacts in the area of traffic mix, due to the

increased volumes of RVs that may occur over time.

Some new trails would be constructed to provide new connections between existing trails in the parkway and existing or new trails outside the parkway. This would link parkway recreation areas with off-parkway locations. Improved connections with regional equestrian trails would also be considered. There would be the potential for local long-term minor beneficial impacts on parking, traffic volumes and level of service if an appreciable amount of users access the parkway trails from trailheads outside of the parkway.

Short-term impacts would be similar to alternative A. The zoning configuration under alternative C would result in more extensive infrastructure redesign, resulting in higher levels of concentrated visitor use. Therefore, the amount of repairs needed may be more concentrated in local areas where visitation would be high. Traffic control measures would also be more concentrated in these areas. Short-term impacts would be local, adverse, and minor to moderate depending on the location and extent of the maintenance work or congestion. Mitigation measures, such as implementing a traffic control plan, would reduce adverse impacts to minor where construction activities would occur.

### **Parkway Segments and Recreation Areas**

Only those parkway segments and recreation areas that would experience more specific impacts than those described under the parkway-wide section are described below.

**Segment 1: Ridge.** The parkway would work with the U.S. Forest Service to identify opportunities for wilderness/trail recreation. Parking lots and other support services would be provided in the scenic character zone for access to U.S. Forest Service recreational opportunities. These areas currently have recreational attractions, such as backcountry trail crossings, but no legal places to park.

Illegal roadside parking causes traffic safety and traffic flow issues, with parked cars potentially encroaching on the already narrow parkway width, drivers opening car doors into the parkway driving lanes and drivers making u-turn maneuvers. Providing a solution to these problems would outweigh the increased traffic volumes the added parking may create, resulting in a local long-term moderate beneficial impact on level of service, traffic safety conditions, and parking.

**Segments 1 and 2: Ridge and Roanoke.**

Under alternative C, some of the isolated overlooks that experience criminal activity would be substantially redesigned to improve visibility by passing traffic. While this action is primarily provided to improve personal safety, it would also improve traffic safety in instances where the sight distance is improved for vehicles returning from a given overlook to the parkway. This would result in local long-term minor beneficial impacts in the area of traffic safety conditions.

**Segments 1, 2, 4, and 6: Ridge, Roanoke, Highlands, and Asheville.**

Under alternative C, the parkway would pursue the development of paved multiuse trails parallel to, but separate from, the roadway in three urban areas of the parkway—Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville. These trails would be most effective in reducing bicycle and automobile conflicts if cyclists were required to use them instead of riding on the parkway road. Restriction of bicycles from the roadway, however, is not proposed as part of any of the alternatives. There is some concern that bicyclists would be less likely to use the multiuse trails if pedestrians or other users occupy them and vice versa. If a path is constructed, cyclists (especially large cycling clubs) would likely still use the roadway. As a result, only minor local long-term beneficial impacts would be expected to traffic mix, traffic volume, level of service, and traffic safety conditions. Where these multiuse trails connect with regional greenway systems, there may be a negligible decrease in some local recreational traffic due to the alternative transportation option, which would result in

local negligible beneficial impacts on parking, traffic volumes, and level of service.

**Segment 4: Highlands.** The largest volumes along the parkway are projected for the Highlands segment, with 2020 daily volumes of 3,240 vehicles per day on the weekdays and 4,590 vehicles per day on the weekends. The weekday volume shows a slight decrease from the baseline condition due to the two competing factors that are described in alternative B—the expected decrease in nonrecreational traffic with the addition of new grade separation structures and smaller increases in recreational traffic expected.

The segment would operate at level of service C during the peak season weekends, which falls below the level of acceptable conditions for the visitor’s driving experience according to the results of the 2002 visitor use and carrying capacity study. However, no congestion problems would be expected at intersections that provide access to the parkway as part of this alternative with all intersections projected to operate at level of service B or better. Long-term impacts would be adverse, local, and minor to moderate on traffic volumes, level of service, and traffic safety conditions.

**Segment 6: Asheville.** The highest weekend growth in traffic volumes along the parkway is projected for the Asheville segment, with an annual growth rate of 3.1% on weekends. These increases are a combination of the expected growth of the Asheville area population and the added frontcountry and parking amenities that are part of this alternative. The segment would operate at level of service B.

The intersection with the highest delay along the parkway would be at the south intersection with U.S. 74 in the southeast part of Asheville. The average delay during the PM peak hour of a peak season weekend would be about 60 seconds per vehicle and the intersection would operate at level of service F, which is below the acceptable level for visitor experience and would result in local

long-term moderate adverse impacts on traffic volumes, level of service, and traffic safety conditions. The addition of turn lanes at the intersection to mitigate the delay experienced by a large number of recreational travelers would change the traffic safety impacts on a slight increase in potential for vehicular conflicts. Therefore, the mitigation would reduce adverse impacts to minor for traffic safety conditions. The adverse impacts on traffic volumes and level of service would remain moderate with the addition of turn lanes at the intersection.

New parking facilities for recreational use would be added at locations along the parkway where illegal roadside parking currently occurs. The impact would be beneficial, local, long-term and moderate to level of service, traffic safety conditions, and parking.

Also, staging areas for a shuttle system with the city of Asheville would potentially be provided. If such a shuttle system were implemented, this would result in local long-term minor beneficial impacts in the area of alternative transportation modes and impacts on traffic volumes, level of service, and traffic safety conditions would be beneficial, local, long-term, and negligible.

**Segment 7: Pisgah.** Although no new recreational amenities are proposed for the Graveyard Fields Overlook, there would be increased traffic volume in this segment associated with alternative C. Future increases in traffic volumes would intensify the current parking issue, resulting in local long-term minor adverse impacts.

**Peaks of Otter.** Alternative C would bring increased traffic in the Peaks of Otter Visitor Center parking area which is currently operating near-capacity on peak season weekends. Increases in traffic volumes would intensify this parking issue that would be barely perceptible or noticeable but of little inconvenience for travelers, resulting in local long-term negligible to minor adverse impacts at this recreation area.

**Roanoke Mountain.** The majority of this recreation area would be zoned recreation as part of alternative C. With the proximity to the Roanoke area, the increased trails that would be associated this zoning would attract new users. The improvements to this underused campground would also result in small increases in use. It is expected that overall visitation to this area would slightly increase and there would be local long-term minor adverse impacts on traffic volumes, level of service, and parking.

**Rocky Knob.** The historic Civilian Conservation Corps campsite in Rock Castle Gorge would be zoned Special Cultural Resource. Increased emphasis on this area and interpretation at the site would result in a slight increase in overall visitation. As a result, it is expected that there would be local long-term minor adverse impacts on traffic volumes, level of service, and parking.

**Mabry Mill.** The portion of the Mabry Mill area between the parkway and VA 603 would be zoned as visitor services as part of this alternative. Within the visitor services zone, pedestrian circulation, signs, and wayside exhibits would be redesigned. Additionally, interpretive media would be improved and more diverse presentations of mountain industry would be provided. If it is determined that operation of the restaurant is not economically feasible, restaurant services would be discontinued and the existing restaurant would be converted to a visitor contact station. Outside of restaurant closure, these improvements would lead to a slight increase in visitation which would result in local long-term minor adverse impacts on traffic volumes, level of service, and parking. However, if the restaurant were closed, traffic levels, particularly on weekends, would likely drop considerably.

VA 603 would be relocated or closed through the Mabry Mill area as part of this alternative. There would be a slight decrease in the potential for vehicular conflicts in a local area. This would provide local long-term minor beneficial impacts in the area of traffic safety conditions.

Opportunities would be explored to develop a paved multiuse trail that would connect this site with the gateway community of Meadows of Dan. This would be expected to result in local long-term minor beneficial impacts on traffic volumes, level of service, and parking, as it is expected that most trips along this path would start and end in Meadows of Dan.

**Blue Ridge Music Center.** Alternative C would expand information and orientation capabilities through partnerships and parkway staff would expand the parkway's active participation in regional tourism projects. It is expected that these efforts would increase usage and cause local long-term minor adverse impacts on traffic volumes, level of service, and parking.

**Linville Falls.** Recreational improvements under alternative C at this recreation area would increase parking demand and visitor length of stay. Resulting increases in traffic volumes would intensify the parking issues at the Linville Falls Visitor Center, resulting in local long-term minor adverse impacts.

**Craggy Gardens.** The entire area would be zoned Special Natural Resources, which limits hiking to designated trails and does not provide other backcountry facilities. The trail to Craggy Pinnacle would be retained. Various management strategies would be implemented to keep visitors on the designated trail and overlooks. The proposed changes are not expected to produce any appreciable difference in traffic volumes or parking demand and there would be, thus, no measurable impacts.

**Mt. Pisgah.** The size of the campground would be decreased by the closure of all tent camping sites that are directly adjacent to the rare high-elevation bog. A portion of the existing RV sites would be converted to tent camping, but water and electrical hookups would be added to the remaining RV sites. It is expected that the decreased number of RV sites and the improved amenities at the remaining sites would offset each other, with the net result being campground usage with no measurable impacts.

## Cumulative Effects

Visitation would increase compared to baseline conditions. For example, under this alternative the Roanoke area is expected to experience a 7% to 20% increase in weekend recreational traffic. Visitor Service zones planned for this alternative would support high levels of use in particular areas, shifting transportation impacts on those locations. These actions would combine with the increased visitation expected from local tourism initiatives and residential development, as well as the resource protection activities that would preclude some development.

Alternative C considers extending existing mass transit connections and public and private shuttle systems to provide alternative transportation to parkway visitor facilities. Alternative transportation may help alleviate transportation-related impacts that would result from the increased tourism initiatives and residential development expected to occur outside the park, particularly near large urban areas such as Asheville. In addition, these actions would also combine with the grade separations and overlook parking improvements as described under alternative B, as well as the highway and transportation improvements planned by local agencies, resulting in overall beneficial effects.

Anticipated increases in parkway visitation would be more concentrated in specific areas. The addition of alternative transportation would add another beneficial element to the cumulative mix. The resulting cumulative impacts on vehicular access, future traffic volumes, level of service, traffic mix, traffic-related safety, parking, and alternative transportation modes would be long-term, adverse and beneficial, local, and vary from minor to moderate.

## Conclusion

Short-term impacts would be similar to alternative A. Alternative C would result in more extensive infrastructure redesign,

resulting in higher levels of concentrated visitor use. Therefore, the amount of repairs and traffic control measures needed may be more concentrated in local areas where visitation would be high. Short-term impacts would be local, adverse, and minor to moderate depending on the location and extent of the maintenance work or congestion. Mitigation measures, such as implementing a traffic control plan, would reduce adverse impacts on minor where construction activities would occur.

Under alternative C, vista management would be more flexible than current conditions, without strict adherence to the Parkway Land Use Maps. The parkway would, therefore, have more ability to address parking shortages at overlooks and parking areas and by adding new parking, resulting in local long-term minor beneficial impacts on parking and traffic safety. Also under alternative C, the parkway would extend mass transit connections and provide shuttle systems, with local long-term negligible beneficial impacts on traffic volumes, level of service, and traffic safety. Campground improvements would increase campground use, resulting in adverse local long-term minor impacts on traffic volumes, level of service, traffic mix, and traffic safety. If an appreciable number of visitors access the parkway trails from new

trails outside the parkway, local long-term minor beneficial impacts on parking, traffic volumes, and level of service would occur. At the Asheville segment, the intersection with the highest delay along the parkway would operate at level of service F, resulting in local long-term moderate adverse impacts. The addition of turn lanes at the intersection to mitigate the delay experienced by a large number of recreational travelers would change the traffic safety impacts to minor.

Anticipated increases in visitation as a result of actions specified under alternative C would combine with increased visitation expected from local tourism initiatives and residential development expected nearby. The alternative transportation and grade separations and overlook parking improvements called for with alternative C would combine with the highway and transportation improvements planned for by local agencies. Therefore, cumulative impacts on vehicular access, future traffic volumes and level of service, traffic mix, traffic-related safety, parking, and alternative transportation modes would be long-term, adverse and beneficial, local, and vary from minor to moderate. However, NPS management actions planned under alternative C would increase the level of beneficial effects over alternative A.



# PARKWAY OPERATIONS

## INTRODUCTION

Information about park operations was compiled from various sources including the Blue Ridge Parkway staff, National Park Service planners, and other knowledgeable individuals. Information was gathered about the parkway's management structure to analyze how the alternatives effect parkway operations. The management structure of the parkway is described by division in chapter 3 and includes staffing and budget data. The analysis focuses on how NPS operations would vary based on the different management alternatives in chapter 2. Given the conceptual nature of the alternatives, the analysis is qualitative rather than quantitative in nature. Professional judgment was used to reach reasonable conclusions as to the type, intensity, and duration of potential impacts. The effects of the alternatives on parkway operations are based on

- changes in operational structure, including the operations budget and staffing
- changes in infrastructure, including visitor facilities
- changes in maintenance needs
- changes in parkway services and availability

## METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

**Type:** Effects are classified as either adverse of beneficial.

- **Adverse** impacts would reduce the parkway's ability to meet its purpose, preserve resources and provide a safe parkway experience for visitors.
- **Beneficial** impacts would enhance the parkway's ability to meet its purpose, preserve resources and provide a safe parkway experience for visitors.

**Intensity:** Impact intensity thresholds for NPS operations are defined as follows:

**Negligible:** The effects would be at or below the level of detection and would not have an appreciable effect on park operations. The change would not be noticeable to the public or most staff.

**Minor:** The effects would be small but detectable and would not have an appreciable effect on park operations. The change would be noticeable to some staff but probably not to the public.

**Moderate:** The effects would be readily apparent and would have an appreciable effect on park operations. The change would be noticeable to staff and possibly to the public.

**Major:** The effects would be readily apparent and would result in substantial changes that are markedly different from existing operations. The change would be obvious to staff and the public.

**Duration:** The length of time park operations would be affected is defined as follows:

- **Short-term** impacts would last for no more than two seasons or during the life of construction projects lasting longer than two seasons but would not have permanent effects.
- **Long-term** impacts would persist for more than two seasons or may be permanent.

**Context:** Given that NPS park operations are integrally linked across the parkway, all actions that affect operations are considered to be parkway-wide. Actions that are local or impact operations at the district level impact the budget, staffing, facility, and maintenance considerations across the parkway, and therefore, no additional specificity about context is included in this analysis.

## **ALTERNATIVE A—NO-ACTION**

### **Parkway-wide**

Under alternative A parkway staff would continue to manage without a comprehensive parkway-wide management direction. Many operational issues would continue to be addressed on a case-by-case basis through superintendent's orders or other program-specific guidance. This would result in operational inefficiencies because it is reactive in nature and division chiefs have to continually inform and/or train their employees about ever-changing management direction. A comprehensive plan, however, would not eliminate the need to update the superintendent's compendium or other guidance as necessary, but reduce the frequency with which changes are made. Because more staff time and money is required to respond to management decisions that occur on a case-by-case basis, impacts on operations would be minor to moderate and adverse over the long term.

Under alternative A, the parkway would continue to use the historic Parkway Land Use Maps where operationally feasible to direct maintenance of the parkway road prism. Strict adherence to these maps is often infeasible for a variety of reasons and results in minor adverse impacts on operations. The existing six-month visitor season and staffing levels would remain in place and the parkway would continue to experience operational inefficiencies due to the fact that current staffing is barely able to meet all basic operations needs. The parkway would continue to rely heavily on seasonal employees due to the six-month season, increasing the workload and operational expenses across all divisions to adequately train and mentor seasonal employees in the early portion of each season. This minor to moderate adverse impact is particularly detrimental to the efficiency of the administration division due to the need to process all of the requisite documents to hire people each year. This impact is mitigated to some extent by relying heavily on volunteers to offset the lack of paid staff.

Park operations would continue to be adversely impacted by a lack of personnel to adequately meet the needs of the visiting public for law enforcement and for the interpretation program, resulting in long-term minor to moderate adverse impacts. Under alternative A the parkway would continue to meet current operational needs in interpretation and law enforcement using cyclic and project funds.

Much effort would continue to be expended by the external affairs and partnership staff in cooperation with the planning staff to continue to actively develop and maintain a wide range of partners, both government and private. External partnership work would continue to be necessary to protect resources and provide a quality visitor experience, but no changes from current efforts are proposed under alternative A. Under a no-action scenario, some inefficiency arises due to the need to respond to external needs and demands on a case-by-case basis, rather than proactively. As urban development encroaches on the parkway, the need to partner becomes more necessary and the adverse impact from inefficiencies increases. Therefore, under alternative A, impacts on the external affairs and partnership staff would be long-term, minor to moderate, and adverse.

Operational issues related to access and circulation involve both automobile traffic and bicycles. The moratorium on secondary road improvements would require fewer hours and dollars to be spent by maintenance and engineering staff to implement the improvements, resulting in beneficial impacts until a management plan is in place. Road improvements necessary to ensure public health and safety would continue, as would evaluations of primary highway improvements or new construction projects, mitigating potential adverse impacts on visitor safety. The continuation of bicycle use and the increase in commuter traffic and roadway conflicts in urbanized sections of the parkway could result in negligible to minor adverse impacts because law enforcement staff would continue to be diverted from other duties to

respond to user conflicts and accidents due to current use patterns.

Impacts on the maintenance and engineering division under alternative A are related to campgrounds, concessions, and trails. Maintenance hours and expenses related to campground upkeep would remain largely unchanged under alternative A because campground access, tent sites, and RV hookups would remain as they are today. Meeting backlog maintenance needs while simultaneously maintaining aging infrastructure would continue to strain the maintenance and engineering staff and would likely require additional staff and funding beyond that currently being spent. Additional staff or funding would enhance operational efficiency, but without it, this minor to moderate adverse impact would continue over the long term because infrastructure would continue to deteriorate. Upgrades to comfort stations at select campgrounds would likely come from project funding, and therefore, would only require minimal staff time to oversee construction in the short term and some additional maintenance requirements in the long term. Impacts would be nonexistent to negligible and adverse over the short term and long term.

Lodging and food service concessions would continue along the parkway where economically feasible, which would require continued effort by the concession contract and oversight staff. The adaptive reuse or removal of concession facilities that are no longer financially viable would likely only require minimal staff time or budget beyond current levels because reuse or removal would be accomplished through project funds and labor. Implementation of alternative A could result in long-term minor beneficial impacts on the concession staff due to fewer contracts to administer and to the maintenance and engineering division if facilities are removed and no longer require upkeep.

The management and maintenance of the extensive parkway trail system would continue to allow for the current types and levels of visitor use. The only change to the

current scenario is that additional time would need to be spent working with partners to complete the Mountains-to-Sea Trail. The additional time necessary to complete this could potentially remove partnership staff from other duties, resulting in a short-term negligible adverse impact.

Impacts on the resource management and science staff would be varied. For example, seeking designation of the parkway as a national historic landmark would likely require cultural resource staff to be diverted away from other work in the short term to focus on designation. This reprioritization would result in negligible adverse impacts on operations in the short term because other cultural resource work would suffer from a lack of attention. In the long term, cultural resource management operations would continue to focus on historic structure preservation and viewshed management as currently practiced, but compliance with the requirements of the landmark designation could require some additional work on the part of the planning, lands, and compliance staff, resulting in negligible to minor adverse impacts in the short term.

Operations related to management of flora and fauna, designed landscape features, and roadside vistas and other scenic resources would primarily continue as currently practiced and operational inefficiencies would continue because resource management is implemented on a project-specific basis or as a result of annual planning. This does not allow for multiyear planning, which is often needed for effective resource management, resulting in minor to moderate adverse impacts in both the short and long term. In the short term, negligible adverse impacts would result because staff time and dollars would be needed to oversee the completion of the baseline resource inventory. Once completed, the inventory would enhance operations and management of resources, thus having a long-term beneficial impact on operations.

Conserving the idealized scenes of the parkway through land purchases, easements, and other creative strategies would add to

parkway staff workload and require additional funding or reprioritization of existing funding in the short and long term. Additional time would need to be spent by planning, lands, and compliance staff, as well as external affairs and partnership staff to ensure the effective implementation of these complicated strategies over time as they are identified, resulting in minor adverse impacts over time. In addition, an increase in the land under the parkway's control would mean additional resources would need to be spent maintaining and managing it in alignment with the parkway's purpose and policy and legal requirements. This would result in additional adverse impacts, albeit negligible to minor in nature. Overall impacts on operations would be long-term and minor to moderate, due to project-specific management and an ever-increasing need for such work with limited staff and budget.

Land acquisition from willing sellers to consolidate irregular portions of the parkway, eliminate private road access, and conserve scenic views would continue as currently practiced on a case-by case basis in accordance with the land protection plan. So long as the time and dollars spent on this program remain within the historic range, beneficial impacts would accrue over time because less effort would be spent managing an irregular boundary and responding to roadway incidents as a result of private access. However, the time spent amending the current land protection plan in a reactive mode to address current needs costs the planning, lands, and compliance staff and superintendent's office time and money and results in minor adverse impacts over time.

### **Parkway Segments**

Impacts not previously discussed in the parkway-wide section are included in the parkway segment analysis.

**Segment 1: Ridge.** Continuing at current levels would require no increase in funding, scheduling or staffing in this area. Operational challenges and responsibilities would

continue to be at the same levels as are currently experienced. For example, no physical changes or management related to the overlook pullouts would occur in segment 1, which would pose a long-term minor adverse impact on park operations because law enforcement personnel have to spend more time responding to incidents related to illegal activities at these locations. Minor to moderate impacts on operations would continue in the long term due to a lack of interpretation and orientation services at the north entryway. Overall, impacts in segment 1 would be long-term minor to moderate and adverse.

**Segment 2: Roanoke.** The Roanoke segment would continue to be heavily used due to its proximity to the city of Roanoke, which is the largest urban area along the parkway. No physical changes or management related to the overlook pullouts would occur in segment 2, which would pose long-term minor adverse impacts on park operations because illegal activities at these locations would continue and would require continued enhanced law enforcement presence to respond to such incidents. These issues and limited staffing would contribute to long-term minor to moderate adverse impacts on park operations.

The development of trails and the provision of trail connections in segment 2 would require more effort and time by the planning, lands, and compliance staff and trail maintenance crews and would impact the budget if trail development is not project funded. Impacts on park operations related to trail development and connections would be short-term, minor, and adverse in the short term because of additional spending, but additional recreational facilities and trail connections would result in minor beneficial impacts on operations in the long term. Overall, operational impacts at segment 2 would be minor and adverse in the long term.

**Segment 3: Plateau.** No changes to park operations are proposed for segment 3; and therefore, no impacts on park operations are anticipated under alternative A.

**Segment 4: Highlands.** Operations in segment 4 would continue to be adversely impacted over the long term because of unmet needs for recreational trails and lack of a prominent location for interpretation and orientation in the Boone/Blowing Rock Area. Should new uses be allowed on existing trails, adverse impacts on park operations could occur because new uses have the potential to increase trail user conflicts and issues that require law enforcement response. In addition, in order to properly monitor user conflicts and maintain the trails in a usable, safe condition for all visitors, law enforcement and resource management and science staff time and focus may have to be directed away from other issues and areas of the parkway. The potential for additional staff time and funds to be directed toward accommodating new uses and redirected from other operational needs would result in long-term minor to moderate adverse impacts on operations.

**Segment 5: Black Mountain.** No changes to park operations are proposed for segment 5, and therefore, no impacts on park operations are anticipated under alternative A.

**Segment 6: Asheville.** Impacts related to allowing new trail uses would be the same as in segment 4. Attempts to limit informal parking to increase visitor safety and reduce road shoulder damage would have both adverse and beneficial impacts on operations. Limited law enforcement personnel time would continue to be directed toward reducing informal parking, which could reduce their effectiveness in road patrols and other duties, resulting in minor adverse short-term impacts. If the law enforcement personnel are successful in reducing informal parking and road shoulder damage, the result would be both short- and long-term minor to moderate beneficial impacts due to reduced maintenance staff time and dollars directed at road shoulder maintenance needs. Overall, impacts on operations at segment 6 would be long-term, minor to moderate, and beneficial.

**Segment 7: Pisgah.** The location of orientation and interpretation waysides at the

south entrance creates visitor safety issues that require law enforcement personnel's attention, resulting in minor adverse impacts because their time could be spent addressing other issues. Keeping vistas open in this segment by direct management action in spruce/fir habitat not only requires staff time to remove/limb trees, etc., but also the time of the resource management and science and planning, lands, and compliance staff to mitigate adverse impacts on sensitive species and comply with federal law and requirements. Vista management, therefore, results in long-term minor adverse impacts on park operations.

Managing invasive species between Asheville and Mt. Pisgah is challenging because of use levels and because trail corridors are accelerating the introduction of these species. Current management of invasive species is reactive in nature, which is an inefficient use of time and money when compared to a more comprehensive management approach. This approach results in minor adverse impacts on operations and maintenance. Overall impacts on operations along segment 7 would be long-term, minor, and adverse.

### **Parkway Recreation Areas**

Impacts not previously discussed in the parkway-wide section or parkway segment analysis are included in the recreation area analysis.

**Humpback Rocks.** Under alternative A, maintaining the current facilities and design would lead to long-term adverse impacts on operations because the anticipated increases in visitation over time could not be accommodated with the current size of the picnic area, visitor contact station, and trailhead parking.

The parkway would continue to partner with the Appalachian Trail as a means of reducing impacts on operations through sharing workloads and resources in the development and maintenance of trails. However, if the trail sections need to be rerouted, planning, lands,

and compliance and resource management and science staff time and money would have to be redirected to this effort and could result in minor adverse impacts during the time period of planning for and rerouting the trail. Overall, operational impacts at Humpback Rocks would be long-term, minor to moderate, and adverse.

**James River/Otter Creek.** Under alternative A, retaining the underused contact station requires staff time and expenditures, which is not the most efficient use of dollars in the long term, resulting in a minor adverse impact on operations. Continuing to dredge the lake requires staff time and dollars to be expended over the long term, but ensures a safe environment for visitors. Overall, impacts on operations would be long-term, minor, and adverse.

**Peaks of Otter.** Continuing current management direction for Saunders Farm and Johnson Farm would lead to continued loss of integrity of the cultural landscape, which would adversely impact the parkway's protection of resources. Overall, this would have a long-term minor to moderate adverse impact on operations.

**Roanoke Mountain.** The National Park Service would continue to manage the Roanoke Mountain loop road through lease agreements with the city of Roanoke. This effort would continue to occupy external affairs and administrative time to maintain a strong working relationship with the city and to meet all requirements of the lease agreement. In addition, law enforcement patrol of the loop and maintenance of the road itself would continue to occupy staff time and consume operational funding. Maintaining the underused campground also requires staff time and expenditures, which may be more effective if directed elsewhere. All of these actions would have minor negligible beneficial impacts on operations in the long term because visitors would be able to continue to access and enjoy the loop road and campground, despite somewhat inefficient use of scarce operational dollars.

**Smart View.** Under alternative A, the existing qualities of the pastoral agricultural landscape would be retained, requiring continued diligence on the part of parkway operational staff. The maintenance staff, for example, would continue to mow roadsides and the external affairs and partnership staff would continue to build relationships with private agricultural landholders and conservation organizations within the parkway to ensure the land continues to be used and/or maintained as an agricultural landscape. The continuation of this effort in light of continued urban development would continue to require more and more staff time and money, which would result in incremental minor to moderate adverse impacts over the long term given current staffing and budget levels.

**Rocky Knob.** Managing the historic gas station structure to retain the historic architectural character and visitor contact function would continue to require operating and maintenance expenditures as well as the time of both cultural resource and maintenance and engineering staff. Continuing to manage the picnic site as is would require minimal increases in general maintenance and upkeep to the site as visitation increases. In addition, continuing to maintain the hiking trails and fire road for guided walks and safe visitor use would require law enforcement and trail crew focus, time, and money given visitation increases. Continuing to manage the trails, picnic site and gas station as is results in long-term negligible to minor adverse impacts due to the need for additional staff time and operational expenditures.

**Mabry Mill.** Pedestrian access and circulation would remain inefficient and continuing to provide interpretation and visitor information services to more and more visitors would result in long-term minor to moderate adverse impacts on operations. The state road that bisects the parkway forces visitors to cross it to access parking. This crossing is unsafe and visitor crossings interfere with traffic flow and vehicle accidents that require law enforcement and

emergency incident response. This results in negligible adverse impacts on law enforcement patrol efforts along the parkway during these temporary episodes. Overall, operations at Mabry Mill would experience long-term minor to moderate adverse impacts.

**Blue Ridge Music Center.** Under alternative A, the Blue Ridge Music Center recreation area would be maintained in its current condition. The anticipated growth in public visitation to this recreation area would adversely impact operations in the long-run given the continuation of limited funding and staffing levels. This impact would be due to the need for increased grounds maintenance and law enforcement presence, particularly during summer concerts, cultural demonstrations, and other popular events.

**Cumberland Knob.** No changes to park operations are proposed for the Cumberland Knob recreation area; therefore, no impacts on park operations are anticipated under alternative A.

**Doughton Park.** No changes to park operations are proposed for the Doughton Park recreation area, but increased visitation to the area could require additional staff time over the long term, which could have a negligible to minor adverse impact on operations.

**Julian Price Memorial Park.** Wetland and species management could be complicated for increasing visitation and associated visitor use impacts. Response to such impacts would require additional staff time and operational expenditures, resulting in minor adverse impacts. Providing picnicking opportunities at the current picnic area would require additional staff time and expenditures due to heavy use and increasing visitation over time, resulting in long-term minor adverse impacts on operations. Overall, impacts would be long-term, minor, and adverse.

**Linville Falls.** The existing maintenance facility does not adequately meet the needs of the maintenance and engineering staff. As a result, maintenance activities are less efficient

than they could be. This inefficiency leads to long-term minor to moderate adverse impacts on maintenance operations. In addition, as visitation in the area increases, additional interpretation staff may be needed to provide site orientation and interpretation services at the newly enlarged visitor contact station. Directing additional staff to this visitor contact station would reduce services elsewhere in the parkway, which could have adverse impacts on interpretation services in other areas of the parkway. Overall, impacts would be long-term minor to moderate and adverse primarily due to the need to continue to operate out of an inadequate maintenance facility.

**Crabtree Falls.** No changes to park operations are proposed for the Crabtree Falls recreation area; therefore, no impacts on park operations are anticipated under alternative A.

**Craggy Gardens.** The short- and long-distance trails would continue to be managed as they are today. Given that off-trail hiking by visitors causes resource damage, continuing this management strategy leads to the need for trail maintenance and resource management and science staff to rehabilitate social trails and work to restore natural habitat conditions and function. This results in minor adverse impacts over the long term due to the need to use staff time and operational money for these purposes.

**Mt. Pisgah.** No changes to park operations are proposed for the Mt. Pisgah recreation area; therefore, no impacts on park operations are anticipated under alternative A.

Parkway operations across all segments and recreation areas would continue to experience some inefficiencies and adverse impacts as a result of a lack of overall guidance and the inability of current staff to appropriately deal with the maintenance backlog and growing workloads due to increased visitation. The continued need to rely on seasonal employees has inherent operational inefficiencies because of the need to train new employees on an annual basis. Collectively, the impacts

on park operations under alternative A would be minor to moderate, adverse, and long-term.

### **Cumulative Effects**

Recreation and tourism enhancements in adjacent counties and municipalities enhance the spectrum of opportunities for visitors, but also impact the operations of the parkway. For example, the external affairs and partnerships staff in coordination with the planning, lands, and compliance staff have to dedicate large amounts of time to ensuring that recreation path connections are appropriately planned to ensure resource protection and ensure adequate access and circulation with the existing network. In some instances, the maintenance and engineering division is affected when parkway infrastructure needs to be renovated and maintained. The development of non-NPS facilities such as campgrounds and visitor centers alleviates the need to further develop and maintain as much infrastructure inside the parkway, resulting in a beneficial impact.

The ongoing development of private lands throughout the region requires a more coordinated and time-consuming effort on the part of the external affairs, partnership, and planning, lands, and compliance staff to work with municipalities, counties, and organizations to protect scenic vistas and other park resources through easements and other land protection tools. This is especially true in areas adjacent to large population centers such as Roanoke and Asheville. Types of development include residential homes, subdivisions, commercial businesses, and industry. Urban development is projected to continue with the ongoing influx of people to these areas. As a result, new developments and increasing population in the region are creating more impacts on parkway infrastructure and programs, which requires additional staff and funding to maintain the parkway. This results in long-term minor to moderate adverse impacts on operations.

The quantity and types of road construction and improvements may alleviate some

commuter traffic along the parkway, reducing volume and associated road impacts and automobile conflicts. This would result in beneficial impacts on operations. Proposed roadway crossings, such as with I-73, would require the involvement of planning, lands, and compliance and resource management and science staff to work with the federal highway administration and department of transportation during planning, design, and construction. This would require staff time to be diverted from other efforts, resulting in a short-term minor adverse impact on specific division personnel.

The extensive network of national forests, state parks, and privately owned protected areas adjacent to the Ridge, Black Mountain, and Pisgah segments and two national parks (i.e., Shenandoah and Great Smoky Mountains) assist with protecting resources and mitigating other resource issues, such as the spread of invasive species. Although the impacts of resource protection in the form of easements, preservation programs, and conservation zoning are beneficial, the external affairs, partnership, and planning, lands, and compliance staff must spend time building relationships and working with partners, which requires time and money, resulting in recurring short-term minor adverse impacts.

Past, present, and reasonably foreseeable future actions would require an increasing amount of staff time and operational funding as surrounding communities and areas continue to experience population growth and corresponding development of infrastructure that impacts the parkway. Managing the impacts of transportation improvements, external resource protection, and recreation and tourism efforts, generally result in long-term minor to moderate adverse cumulative impacts on park operations given the need to manage these impacts with a constrained budget and corresponding staffing levels.

When the likely effects of implementing the actions contained in alternative A are added to the effects of other past, present, and



reasonably foreseeable future actions, there would be long-term moderate adverse cumulative impacts on park operations. The actions contained in alternative A would contribute a modest increment to this cumulative impact.

## **Conclusion**

Alternative A would have minor to moderate long-term adverse effects to park operations due to system inefficiencies resulting from a lack of comprehensive guidance, the inability of current staff to appropriately deal with the maintenance backlog, the continued need to rely on seasonal employees. When combined with the potential impacts related to increasing development adjacent to the parkway, the need to manage recreation enhancements that impact parkway operations and manage partnerships to protect resources and scenic viewsheds, the actions in alternative A would have a long-term moderate adverse cumulative impact on park operations. Alternative A would contribute a modest increment to this impact.

## **ALTERNATIVE B (NPS PREFERRED)**

### **Parkway-wide**

Under alternative B the parkway would be managed with comprehensive parkway-wide management direction that would blend newer law and policy requirements with the traditional parkway concept. As a result, many of the current inefficiencies of managing on a case-by-case basis would be removed. Management across division would be more proactive than under alternative A, resulting in long-term minor to moderate beneficial operational impacts.

Assuming the parkway receives the full \$21 million in operating funds, more staff would be hired to begin to address the maintenance backlog and other needs that have not been addressed due to a lack of funding and adequate staffing, which would lead to operational efficiencies and minor to

moderate beneficial long-term impacts on operations. The parkway's use of seasonal employees would remain, but the extension of the season to nine months in certain recreation areas would result in operational efficiencies because seasonal staff would become more efficient in fulfilling their duties during a longer working season and annual seasonal employee retention would likely increase from year-to-year, which would reduce training needs and expenses at the start of every season and result in minor beneficial impacts over the long term.

Updating the historic Parkway Land Use Maps would likely be done by a contractor in cooperation with park staff using project funds, so only some staff time, primarily that of the planning, lands, and compliance staff, would be required. Using updated historic Parkway Land Use Maps would reduce the infeasible nature of some of the original map requirements, providing operational efficiencies and minor beneficial impacts in the long term.

Additional effort would be expended by the external affairs and partnership staff in cooperation with the planning, lands, and compliance staff in alternative B relative to that in alternative A to identify views along the parkway to be protected and to actively collaborate with adjacent landowners and partners to conserve priority scenery and pastoral landscapes. Moreover, actively pursuing new partnerships and exploring a broader base of partnerships to plan and implement joint ventures and support parkway goals would require more external affairs, partnership, and planning, lands, and compliance staff time as well as operational funding. If additional operational funding can absorb the staff time, this proactive effort would provide minor to moderate, beneficial operational efficiencies in the long term due to viewshed and land protection.

Visitor and education staff would experience operational efficiencies in the long term with more staff and funding under alternative B. In the short term, more interpretation and education staff time would be spent

developing a more comprehensive interpretation program, including waysides and emerging technologies. A more comprehensive program would translate into visitors that are better informed and more sensitive to the resource issues along the parkway. More informed visitors are less likely to be responsible for resource and other impacts that require staff time to deal with, but also further the parkway's mission, resulting in long-term minor to moderate beneficial impacts on operations. An expansion of the parkway's participation in regional heritage tourism projects would require operations dollars and staff time that would likely be absorbed by the operations budget increase. Long-term benefits may also accrue as a result of leveraging additional volunteer staff due to additional exposure and new partnerships related to heritage tourism. Overall, impacts would be long-term, minor to moderate, and beneficial.

Operations related to managing access and circulation would experience beneficial impacts as a result of implementing alternative B. Replacing at-grade crossings with new grade separation structures would have multiple beneficial impacts on operations. First, the likely reduction of commuter traffic would lessen the burden on law enforcement patrols and result in fewer automobile accidents and incident response needs. Second, less commuter traffic would reduce impacts on the road itself and associated maintenance needs as well as maintenance and upkeep of roadway pull-outs and bathrooms. Design and construction of at-grade separations would likely be funded through project monies; therefore, the operational expenditures would be small to pay for some staff time to assist with planning and monitoring construction efforts. This additional staff time would likely be absorbed by the increase in the operations budget and overall impacts related to access and circulation would be long-term, moderate, and beneficial.

Impacts on the maintenance and engineering division under alternative B are primarily related to changes and upgrades to

campgrounds, concession facilities, and trails. Enlarging select tent sites, upgrading amphitheaters and RV sites, in addition to providing universal accessibility at all campgrounds, would impact the operations budget because some staff time would be required during planning and construction. Many of these upgrades would use project dollars and contract construction, which would mitigate the need for large amounts of engineering, maintenance, and planning, lands, and compliance staff time to implement these actions. In the long term, the infrastructure changes and upgrades would better meet the parkway's mission and enhance visitor safety and opportunities, which would result in minor to moderate beneficial impacts on operations.

The commitment to provide viable concession services at all locations could include the need to upgrade existing infrastructure and/or add new facilities. An overarching strategy, such as a new commercial services plan, would be developed to ensure the long-term availability of in-parkway lodging, food, and other services. The development of this strategy and upgrades to existing facilities or construction of new facilities would likely be accomplished with project funding, but some staff time would be needed during planning and construction, which could reduce efficiencies as staff time is reprioritized. This impact would be adverse and negligible in the short term, but the overall impact in the long term, would be minor to moderate and beneficial. Long-term facility maintenance would require a continued commitment in the form of staff time and budget above that under alternative A. If operational funding is increased to the proposed level under alternative B, long-term adverse maintenance impacts would be mitigated. Overall impacts on commercial services would be long-term, minor to moderate, and beneficial.

Under alternative B, the construction of new walking paths would be implemented with project dollars, with little to no impact on the operational budget in the short term. New trails and equestrian improvements would add to the parkway assets requiring long-term

maintenance work, which would have minor adverse long-term impacts on operations. The addition of capacity could alleviate some user conflict and law enforcement response as recreational demand grows, proactively mitigating potential adverse impacts in the long term.

Impacts on the resource management and science staff would be varied. Operations related to management of flora and fauna, designed landscape features, and roadside vistas and other scenic resources would be more proactive and use a long-term, comprehensive, multiyear planning, ecosystem approach. Working with partners to improve habitats outside the parkway boundary would require additional staff time that would likely be absorbed by the increase in the operations budget. Operational efficiencies would be realized by not having to react to and manage resources on a site-by-site basis, leading to minor to moderate beneficial long-term impacts. In addition, actively protecting natural resources that were once managed and maintained in an unnatural state would ease the maintenance and upkeep burden as well as time spent to manage agricultural leases. This would provide additional minor beneficial impacts in the long term. Pursuing a class I air quality classification would require some operational funding and resource management and science; planning, lands, and compliance; external affairs; and partnership staff time to be directed to this effort in the short and long term, which would be absorbed by the operations budget increase. Overall, operations related to resource management would experience long-term moderate beneficial impacts on operations under alternative B.

Land protection efforts under alternative B would have both beneficial and adverse impacts. The amount of staff time necessary to pursue land acquisition to protect resources would be greater than that in alternative A, especially for staff to proactively seek out willing sellers of high-priority parcels, although the operational funding and staffing increase would likely absorb this increase. The

resources staff would then have additional acreage to manage, but the external affairs and partner staff would have fewer partners to work with, resulting in a change in priority but no net change in staff time or resources. The implementation of a land protection strategy with established criteria for acquisition or other protection would create efficiencies across the parkway and lead to minor to moderate beneficial impacts on operations over the long term.

### Parkway Segments

Impacts not previously discussed in the parkway-wide section above are included in the parkway segment analysis.

**Segment 1: Ridge.** Under alternative B, operational impacts in segment 1 would result from the redesign of pull-off parking areas and installing new waysides. Given that the north entrance right-of-way is very narrow, more partnership work and operational expenditures would be necessary to build relationships and develop agreements with adjacent landowners to provide parkway information and orientation, which could adversely impact the budget, but would likely be absorbed by the funding increase proposed under alternative B. Education and interpretation staff increases would also be required to greatly increase the number of visitor contacts and enhance information and orientation at this entrance. Depending on funding levels and the priority of this effort under alternative B relative to other actions, the operational funding increase could absorb all of this work and the ability to contact more visitors and provide them with relevant information and pull-off parking would enhance the parkway's ability to meet its mission and enhance operations, resulting in long-term minor to moderate beneficial impacts.

The amount of effort required to modify some of the overlook landscaping to improve pullout visibility by passing traffic would be absorbed with operational funding and staffing increases and any impact would be

negligible and adverse on specific days. Improved visibility for passing traffic and law enforcement personnel would facilitate traffic flow and visitor safety, thus reducing law enforcement requirements in this area. These changes would provide a long-term minor beneficial impact on park operations. Overall impacts in segment 1 would be long-term, minor to moderate, and beneficial.

**Segment 2: Roanoke.** Some effort would be required to make minor modifications to some of the overlook landscaping to improve pullout visibility by passing traffic in the Roanoke segment. This additional expense would likely be project funded and the minimal staff time required to manage the modifications contract, etc., would be absorbed with operational funding and staffing increases and any impact would be negligible and adverse on specific days if traffic flow is impeded during modification implementation. Improved visibility for passing traffic and law enforcement personnel would facilitate traffic flow and visitor safety in the long term, thus reducing law enforcement requirements in this area. These changes would provide a long-term minor beneficial impact on park operations. Improved visitor orientation in this area would assist with increasing visitor contacts given anticipated heavy visitor use in this area and increasing population in the city of Roanoke. Increases to the operational budget would likely absorb additional staff and workloads and overall impacts in the long term would be minor to moderate and beneficial due to enhanced visitor safety and more visitor orientation services in this segment.

**Segment 6: Asheville.** Under alternative B, the only additional impacts on operations in the Asheville area would be due to the development of additional parking for recreational users. Parking development would likely be project funded and not affect the operational budget outside of the need for some park staff to assist with planning and compliance work. Additional parking would need to be maintained periodically by maintenance staff; however, impacts from this

action would be short-term and easily absorbed by operational funding increases under this alternative. The overall impact would be long-term, minor to moderate, and beneficial.

**Segment 7: Pisgah.** Under alternative B, operational impacts in segment 7 would result from the redesign of pull-off parking areas and installing new waysides. Given that the south entrance right-of-way is very narrow, more partnership work and operational expenditures would be necessary to build relationships and develop agreements with adjacent landowners to provide parkway information and orientation, which could adversely impact the budget distribution in the short term. Staff time and expenditures would likely be absorbed by the funding increase proposed under alternative B and would result in long-term minor to moderate beneficial impacts.

Modifying designed landscapes to protect natural resources could include additional staff time from personnel in a number of divisions, including resource management and science; planning, lands, and compliance; and maintenance and engineering. Modifying drainage structures could be done with project funds, but some operational funding would be required. Developing a comprehensive invasive plant management strategy would take additional effort of planning, lands, and compliance and resource management and science staff, but would likely be completed with project funds, minimizing budget impacts. In the long run, this approach would yield efficiencies in managing and protecting natural resources, which would have minor to moderate beneficial impacts on operations. Overall, impacts would be long-term minor to moderate and beneficial.

### **Parkway Recreation Areas**

Impacts not previously discussed in the parkway-wide section or parkway segment analysis above are included in the recreation area analysis.

The management zones applied to all of the recreation areas along the parkway, from Humpback Rocks in the north to Mt. Pisgah in the south, under alternative B would require a concerted and coordinated effort across the parkway's division's to ensure that specific resource conditions, visitor experience, appropriate recreational activities, and levels and types of development are both achieved and maintained. Eight management zones are designated for the parkway and each would require the focus and attention of certain divisions and staff. For example, the recreation zone under alternative B would require the dedication and time of interpretation and education staff to provide visitor services and law enforcement staff and trail maintenance staff to provide safe recreational opportunities. Multiple divisions would need to coordinate to effectively achieve and maintain the conditions and experiences called for in each zone. The addition of management direction by zone decreases decision making on a case-by-case basis and leads to efficiencies as staff are all working toward a common set of desired outcomes. Overall impacts from the application of management zones would be long-term, minor to moderate, and beneficial.

**Humpback Rocks.** The effort to mark the Howardsville Turnpike route and improve interpretation for visitors would require additional planning, lands, and compliance and interpretation staff time, which would likely be absorbed with operational funding increases, and would have long-term minor to moderate beneficial impacts on operations.

Improving existing trails and adding trail capacity would require additional law enforcement time in the area, but would also mitigate future trail user conflicts, trail damage, and corresponding maintenance needs with increasing visitation. Overall, these additional actions would result in short-term negligible adverse impacts and minor beneficial impacts in the long term.

**James River/Otter Creek.** Changing the function of the Otter Creek Trail visitor contact station to a wayside shelter would

lower the operations budget at this area because fewer interpretation and education staff and maintenance resources would be directed at this underused facility. These resources could be used elsewhere, which would have long-term minor beneficial impacts on operations.

Realigning the trail between the restaurant and lake would require planning, lands, and compliance staff time, as well as trail maintenance staff time to implement, but would provide for more efficient operations in the area with increasing use levels over time. If the trail expanded to a multiuse trail, additional law enforcement time may need to be focused in this area. Overall, these actions would have a minor beneficial impact on operations. Trail realignment and additional trail capacity would require additional law enforcement time in the area, but would also mitigate future trail user conflicts, trail damage, and corresponding maintenance needs with increasing visitation. Overall impacts at this recreation area would be long-term, minor to moderate, and beneficial.

**Peaks of Otter.** Stabilizing the Saunders Farm structures and rehabilitating the landscape at Johnson Farm would require relatively high levels of funding and staff resources. This could be mitigated with outside and/or project funding, but could result in short-term minor adverse impacts on the budget because some staff may have to be redirected from other efforts. Improving RV access to a portion of the campground at Peaks of Otter by widening the entrance and one of the loops, increasing turning radii, and enlarging RV parking spaces would require additional time from professional services and resource staff in the short term, despite a lot of planning, design, and construction work being project funded and implemented through contracts. Maintaining this infrastructure would likely be absorbed with operational funding and staffing increases. Overall impacts on operations would be long-term, minor, and beneficial as a result of improved RV access and cultural resource improvements.

**Roanoke Mountain.** The work required to establish an agreement with the city of Roanoke to manage the Mill Mountain spur road in partnership would require the time and effort of the external affairs and partnership staff in the short term, which would likely be absorbed by the higher operations budget under alternative B. In the long term, a cost and staff sharing management arrangement would reduce the amount of money and staff time spent managing and maintaining this road, which would result in long-term minor beneficial impacts on operations.

The conversion of the Roanoke Mountain campground to a day use area would require some facility improvements and additions to provide picnic and trail staging facilities, which would likely be funded with operation budget increases and through project funds. Maintenance would not change drastically from the current condition. New trails could be developed in this recreation area, which would be compatible with the Roanoke Trail Plan. Maintaining new trails in the long term would require additional resource management and science and trail maintenance staff time and funding, but operational budget increases would likely be able to fund this work. Additional trail capacity in the area would also have long-term operational efficiencies by mitigating future trail conflicts and resource damage as visitation increases over time. Overall, the impacts in the Roanoke area would be long-term, minor, and beneficial given new trail capacity and partnership management of the Mill Mountain spur road.

**Smart View.** Under alternative B, operational funding increases would likely cover the provision of traditional recreational pursuits, including additional trail infrastructure, to more and more visitors during the life of this plan. Overall impacts on operations would be long-term, minor, and beneficial because the parkway could allow and accommodate increasing visitation and recreational demand over time.

**Rocky Knob.** Converting the visitor contact station to a trailhead shelter when the visitor contact facility is established at Mabry Mill would reduce the number of interpretation and education staff and maintenance resources needed at this location, which would benefit operations in the long term. Phasing this facility conversion to follow the establishment of the Mabry Mill visitor contact station allows staff and operational funding needs to be stretched across multiple years, mitigating potential budget stresses and ensuring effective operations from year-to-year.

Reducing the size of the picnic area would require maintenance and resource management and science staff time to rehabilitate the area in the short term, but long-term maintenance needs would be reduced. Short-term staff and funding needs would likely be project funded or absorbed through the operations budget increase. This would result in negligible to minor beneficial impacts in the long term. Important upgrading to Rocky Knob infrastructure is proposed, including upgrades to the Gorge trail system, enhancing the backcountry camping area, providing trailhead staging and improved parking. These actions would require fairly large amounts of funding, some of which would come from project funding, which would mitigate the adverse impacts on the operations budget. Full planning, design, and construction would require the focus and time of staff across multiple divisions and although the workload and funding necessary would likely be absorbed through operation funding increases over multiple years, short-term impacts on the budget could occur. In the long term the upgrades and changes would enhance visitor experiences and make maintenance and operations requirements more efficient, resulting in long-term minor to moderate beneficial impacts.

**Mabry Mill.** Working with the state and federal highway department to relocate the state road that bisects the parkway would require a large investment in staff time and money to accomplish. Another large effort in terms of time and money would be pursuing

development of a visitor contact facility. These two actions, in conjunction with upgrades to pedestrian circulation, signage, and wayside exhibits would require dedicated planning, lands, and compliance and partnership staff, in addition to resource management and science staff to ensure resources are protected and adverse impacts mitigated to the extent possible. Given the investment in time and dollars to implement these actions, adverse impacts on operations could be felt without large project funding and outside partner assistance in the short term. The full build-out of upgrades and changes would increase overall functionality and usability of the area. Overall, long-term impacts would be minor to moderate and beneficial due to increased visitor safety, better traffic flow and distribution, a new facility, signage, and pedestrian circulation to more effectively inform and educate visitors.

**Blue Ridge Music Center.** The expansion of information and orientation capabilities would require interpretation, education, and partnership staff time that would likely be absorbed by operations budget increases. Enhancing services would lead to long-term minor to moderate beneficial impacts on operations in the music center area.

**Cumberland Knob.** Under alternative B the visitor contact station would be restored to its historic appearance and visitor services would be enhanced through dedicated staffing, exhibits, etc. Additional infrastructure improvements, such as outdoor program shelters and trails would be developed. These actions would require increases in funding and staffing in both the short and long term. Planning and construction of the infrastructure would likely be project funded, but additional interpretation, law enforcement and maintenance staff time would likely be absorbed by budget increases in the long term. Increasing visitor services, such as providing more law enforcement led programs, would require additional interpretive and law enforcement staff time that would also be absorbed by the budget. Overall, these actions would result in minor to moderate beneficial long-term impacts due to

enhanced visitor and student opportunities that could be provided with budget and staff increases.

**Doughton Park.** Under alternative B, improvements would be made to better accommodate equestrian use in the area. Short-term impacts on the budget could result, but if priorities are established, constructing trailhead parking and providing equestrian backcountry campsites could be implemented with the help of project funds and outside grants, minimizing budget impacts. Overall operational efficiency would be increased due to more efficient parking and marked trails, reducing law enforcement efforts in the area. This would have long-term minor beneficial impacts.

Altering the management strategy at Brinegar Cabin to replicate the historic landscape would require additional staff time and expenditures that would likely be absorbed by the budget increase. This is also true for staff time to convert some tent sites to RV sites. Impacts due to changes in management strategies and campsite conversions would be minor to moderate and beneficial in the long term. Overall operational impacts from these changes would be long-term minor to moderate and beneficial.

**Julian Price Memorial Park.** Under alternative B an increased focus on resource management to protect wetlands would likely require additional time, attention, and funds to be directed to this area to adequately manage landscape management practices at this location. In the short term, relocating the picnic area and boat rental office would require minimal staff time and funding to provide planning and oversight of project funds and contracts. Enhancing visibility at the boat rental office and removing the picnic area would have long-term beneficial impacts on operations by enhancing visitor safety and reducing law enforcement responses. Improving RV access to a portion of the campground at Peaks of Otter by widening the entrance and one of the loops, increasing turning radii, and enlarging RV parking spaces would require additional time from

professional services and resource staff in the short term, despite a lot of planning, design, and construction work being project funded and implemented through contracts. Overall impacts on operations would be long-term minor to moderate and beneficial as a result of the provision of more effective resource management and visitor service delivery.

**Linville Falls.** Formalizing access to visitor opportunities, allowing and accommodating increased visitation, and improving universal access for fishing and maintenance facility and area landscaping would require interpretation, law enforcement, and maintenance staff time that would likely be absorbed by operational funding increases. Overall, long-term impacts would be minor to moderate and beneficial due to more effective management of visitor opportunities given increasing visitation over time.

**Crabtree Falls.** Allowing and accommodating increased visitation and managing moderate to high visitor contact would require additional staff time and expenditures for law enforcement and interpretation staff, among others. This would lead to long-term minor beneficial impacts on operations.

**Craggy Gardens.** Under alternative B the grassy bald would be restored to its historic size. This would require a sustained effort on behalf of the resource management and science and maintenance staff over the long term, which would primarily be funded through the operations budget, which could potentially have minor adverse impacts over time if other operations have to be scaled down or not completed. Strategic management of budget increases could mitigate this impact and reduce it to be almost unnoticeable. Restoration of the trail tread along the Craggy Pinnacle trail once closed would adversely impact the trail maintenance crew's ability to work in other areas, which would result in short-term minor adverse impacts. By using planning, design, and construction project funds to develop a new formal hiking trail to Craggy Dome, impacts on the operations budget in the short term

would be mitigated. Long-term maintenance, monitoring, and visitor management along the trail would not be expected to be noticeably different from that required on the existing trail as to impact operations in a very noticeable manner. Overall, impacts on operations would be long-term, minor to moderate, and beneficial due to enhanced operations resource management direction and management.

**Mt. Pisgah.** Landscape and other restoration projects at the Buck Spring Lodge would likely be project funded, keeping operational expenditures to a minimum. Rehabilitation of tent camping sites adjacent to the bog and conversion of some existing RV sites to tent camping sites would require maintenance and engineering and resource management and science staff time and effort in the short term, but would likely be absorbed by the operations budget increase if properly prioritized and planned for in annual budget cycles. Long-term maintenance and management of the area to protect the bog, in addition to the need for additional law enforcement staff to restrict visitor use to trails, would impact the operations budget adversely if the operations budget couldn't absorb it. Overall impacts on operations would be long-term, minor to moderate, and beneficial due to enhanced resource management combined with staffing and funding increases under alternative B.

Overall, the proposed changes in alternative B would provide operational efficiencies across the parkway, including within each segment and recreation area. The presence of an overarching plan in conjunction with large increases to the annual operational budget would allow the parkway to hire additional staff to address the maintenance backlog, enhance visitor experiences, better protect resources, and deal with external threats. Collectively, the impacts on park operations under alternative B would be long-term, minor to moderate, and beneficial.



## Cumulative Effects

The recreation and tourism enhancements, development of private lands, road construction and improvements, and resource protection impacts at the cumulative level would be the same as in alternative A. Past, present, and reasonably foreseeable future actions would require an increasing amount of staff time and operational funding as surrounding communities and areas continue to experience population growth and corresponding development of infrastructure that impacts the parkway. Managing the impacts of transportation improvements, external resource protection and recreation and tourism efforts would have long-term minor to moderate adverse cumulative impacts on park operations, primarily because some of the operations budget would be spent on managing external pressures. However, beneficial impacts are realized due to these expenditures because the parkway is able to continue to meet its mission given the ever-changing environment that surrounds the parkway. Overall cumulative impacts on operations are long-term, minor to moderate, and adverse.

When the likely effects of implementing alternative B are added to the effects of past, present, and reasonably foreseeable future actions, there would be long-term minor to moderate beneficial cumulative impacts on park operations. Alternative B would contribute a large increment to this cumulative impact. The proposals in alternative B in combination with additional operational dollars and staff would be better able to overcome the external adverse threats to park operations than in alternative A.

## Conclusion

Alternative B would have minor to moderate long-term beneficial effects to park operations primarily as a result of an increase in the operations budget and staffing levels, comprehensive guidance, enhanced partner outreach and collaboration, an ecosystem approach to managing natural resources, and

the ability of staff to appropriately deal with the maintenance backlog. When combined with the potential impacts related to increasing development adjacent to the parkway, the need to manage recreation enhancements that impact parkway operations, and manage partnerships to protect resources and scenic viewsheds, alternative B would have a long-term minor to moderate beneficial cumulative impact on park operations. Alternative B would contribute a large increment to this cumulative impact.

## ALTERNATIVE C

### Parkway-wide

Under alternative C, the parkway would be managed with comprehensive parkway-wide management direction and include a large increase to the operations budget. This alternative has an increased focus on providing more modern recreational and visitor service amenities. As a result, a number of recreation areas along the parkway would require upgrades, redesign, or replacement. The parkway would emphasize a comprehensive approach to resource and visitor use management. By not managing on a case-by-case basis, operational efficiency would result from a more coordinated, strategic approach. Management across division would be more proactive than under alternative A. This would lead to long-term minor to moderate beneficial operational efficiencies.

Assuming the parkway receives the full \$23 million in operating funds each year, more staff would be hired to begin to address the maintenance backlog and other needs that have not been addressed due to a lack of funding and adequate staffing, which would lead to operational efficiencies and beneficial long-term impacts on operations. The parkway's use of seasonal employees would diminish somewhat with the extension of the season to 12 months in certain recreation areas, which would enhance workforce stability and likely increase productivity and

reduce the need to process paperwork for as many seasonal employees at the beginning of each season. This would result in minor beneficial impacts over the long term.

The role and importance of the external affairs and partnership staff's work in cooperation with the resource management and science and planning, lands, and compliance staff would be much greater than that in alternative A. The emphasis under alternative C to provide leadership for regional efforts among adjacent landowners—local, state, and federal officials and developers—to establish long-term strategies for conserving views from the parkway, in addition to conserving pastoral landscapes and pursuing a broader base of partnerships would require a great deal of time and funding. This work would enhance the effectiveness and efficiency of management and operations in the long term. If additional operational funding can absorb the staff time and necessary expenditures to truly enhance the partnership work already taking place, this proactive effort would result in minor to moderate beneficial operational impacts over the long term because watershed management and land protection operations would be comprehensive, targeted, and based on resource boundaries and not political jurisdictions, such as county and city lines. If the additional budget and personnel are not able to be directed toward this effort, the result would be minor to moderate adverse impacts in this functional area as the need for partnerships is becoming an increasingly important part of operations related to meeting the parkway's mission.

Visitor and education staff would see operational efficiencies in the long term with more staff and funding under alternative C. More interpretation and education staff time would be spent enhancing visitor's ability to connect to, explore, and learn about the region's natural and cultural heritage. This would include enhancing parkway programs and even directing visitors to resources outside the parkway, such as heritage trails, scenic byways, and other public lands. In addition, an expansion of the parkway's

participation in regional heritage tourism projects and provision of regional information services in the Roanoke and Boone/Blowing Rock areas would require operations dollars and staff time that would likely be absorbed by the operations budget increase. Long-term benefits might also accrue as a result of leveraging additional volunteer staff due to additional exposure and new partnerships related to heritage tourism. More informed visitors are less likely to be responsible for resource and other impacts that require staff time to deal with, but also further the parkway's mission. Overall, impacts would be long-term, minor to moderate, and beneficial.

Adapting to changing visitor needs could require intense, short periods of time when staff would have to adjust the strategies and tools employed and even the location of visitor services to meet visitor use needs. An adaptable program could result in short-term adverse impacts on operational efficiency, but once necessary changes were implemented, operational efficiencies would result due to better educated and more informed visitors that are more sensitive to the resource issues along the parkway. More informed visitors are less likely to be responsible for resource and other impacts that require staff time, leading to long-term minor beneficial impacts on operations.

Operations related to managing access and circulation would realize beneficial impacts as a result of implementing alternative C. Replacing at-grade crossings with new grade separation structures would have multiple beneficial impacts on operations by reducing commuter traffic and enforcement needs and maintenance of the road itself. Project funds or partner funds would pay for most of this effort and the impact on the operations budget would be absorbed in the budget increase. Working with partners to potentially provide alternative transportation options to parkway facilities would require a lot of partner, external affairs, and planning and compliance work, but sharing personnel and resources and using project funds would keep impacts on the budget to a minimum. Enhancing transportation options would

enhance traffic flow and distribution and reduce law enforcement needs, resulting in a moderate long-term beneficial impact.

Impacts on the maintenance and engineering division under alternative C are primarily related to changes to campgrounds, concessions, and trails. Reducing the number of operational campgrounds from nine to eight would have minimal beneficial impacts because staff time would be used at the day use recreation area at Roanoke Mountain. Infrastructure changes at the eight campgrounds would include enlarging select tent sites and upgrading amphitheaters and RV sites. In addition, providing universal accessibility at all campgrounds would require additional funding and staff. However, many of these upgrades would use project dollars and contract construction, mitigating the need for large amounts of maintenance and engineering and planning, lands, and compliance staff time. In the long term, the infrastructure changes and upgrades would better meet the parkway's mission and enhance visitor safety and opportunities, which would result in moderate beneficial impacts on operations.

Under alternative C, the construction of new walking paths would enhance visitor opportunities and connect with regional trail systems, including regional equestrian trail connections. These developments would be implemented with project dollars, with little to no impact on the operational budget in the short term. New trails and equestrian improvements would add to the parkway assets requiring long-term maintenance work, which could have minor adverse long-term impacts on operations if the operations budget increase is not able to absorb them. The addition of capacity could alleviate some user conflict and law enforcement response as recreational demand grows, proactively mitigating potential adverse impacts in the long term.

Impacts on the resource management and science staff would be varied. For example, operations related to management of flora and fauna, designed landscape features, and

roadside vistas and other scenic resources would be more proactive and use a long-term, multiyear planning, ecosystem approach. Working with partners to improve habitats outside the parkway boundary would require additional staff time, but could reduce other operational needs. This more comprehensive approach to resource management would require additional staff time that would likely be absorbed through operational budget increases under alternative C. Operational efficiencies would be realized by not having to react to and manage resources on a site-by-site basis, leading to minor to moderate, beneficial long-term impacts. In addition, actively protecting natural resources that were once managed and maintained in an unnatural state would ease the maintenance and upkeep burden as well as time spent to manage agricultural leases. This would provide additional minor beneficial impacts in the long term. Pursuing a class I air quality classification would require operational funding and staff time from the resource management and science; planning, lands, and compliance; external affairs; and partnership staff time to be directed to this effort in the short- and long-term, which would be absorbed by the operations budget increase. Overall impacts on the resource management and science staff would be long-term, moderate, and beneficial due to efficiencies realized from a focused, strategic approach to management that is not reactive.

The creation of new parkway land use maps that allow for deviations from the historic character of the parkway when necessary would likely be accomplished through the use of an outside contractor in cooperation with park staff using project funds. Therefore, only some staff time, primarily that of the resource management and science and planning, lands and compliance staff would be required. The parkway would experience operational and maintenance efficiencies once the new maps are completed because some of the constraints imposed by the old maps required excess work and dollars to accomplish specific tasks. The new maps would provide operational efficiencies and minor beneficial impacts in the long term.

Land protection efforts under alternative C would have both beneficial and adverse impacts. The amount of staff time necessary to provide leadership for regional efforts among adjacent landowners; local, state, and federal officials; and developers to establish long-term strategies for conserving views from the parkway would require a concerted effort in time and money above that in alternative A, especially for staff to proactively seek out willing sellers of high-priority parcels, although the operational funding and staffing increase would likely absorb this increase. The resource management and science staff would then have additional acreage to manage, but the external affairs and partner staff would have fewer partners to work with, resulting in a change in priority but essentially no net change in staff time or resources. The implementation of a land protection strategy with established criteria for acquisition or other protection would create efficiencies across the parkway and have beneficial impacts in the long term. Overall, such efforts would result in minor to moderate, beneficial impacts on operations over the long term.

### Parkway Segments

Impacts not previously discussed in the parkway-wide section above are included in the parkway segment analysis.

Pursuing the development of paved multiuse trails parallel, but separate from, the parkway in the Waynesboro, Roanoke, and Asheville urban areas would have adverse and beneficial impacts on operations. Initial partnership, planning, design, and construction oversight work would require dedicated staff time and could hinder other efforts called for under alternative C. Much of the work would be project funded and implemented by contractors, which would mitigate the adverse impact of redirecting staff time to this effort and straining the annual operations budget. Once completed, the trails would reduce user conflict on the roadway and law enforcement response needs, which would be beneficial to operations. However, maintaining the trails for visitor safety and quality experience would

continue to require staff time and operational funding in the long term. Assuming operational funding and staffing increases under alternative C absorb the short-term work from partnership development to final construction, as well as long-term maintenance needs, this effort would have long-term minor to moderate beneficial impacts on operations.

**Segment 1: Ridge.** Under alternative C, operational impacts in Segment 1 would be result from the redesign of pull-off parking areas, installing new wayside, and partnership work to given the narrow right-of-way at the north entrance. The resulting impact on operations would be an increase in staff time and funding to build relationships and develop agreements with adjacent landowners to provide parkway information and orientation. Education and interpretation staff increases would also be required to greatly increase the number of visitor contacts and enhance information and orientation at this entrance. Depending on funding level and the priority of this effort under alternative C relative to other actions, the operational funding increase could absorb this work and the ability to contact more visitors and provide them with relevant information and pull-off parking would enhance the parkway's ability to meet its mission and enhance operations, resulting in long-term minor to moderate beneficial impacts.

Pursuing the development of paved multiuse trails parallel to, but separate from, the parkway would have adverse and beneficial impacts on operations. Initial partnership, planning, design, and construction oversight work would require dedicated staff time and could hinder other efforts called for under alternative C. However, much of the work would be project funded and implemented by contractors, which would mitigate the adverse impact of redirecting staff time to this effort. Once completed, the trails would reduce user conflict on the roadway and law enforcement response needs, which would be beneficial to operations. However, maintaining the trails for visitor safety and quality experience would continue to require staff time and operational

funding in the long term. Assuming that operational funding and staffing increases under alternative C absorb the short-term work from partnership development to final construction and long-term maintenance needs, this effort would have long-term minor to moderate beneficial impacts on operations.

The amount of effort required to modify some of the overlook landscaping to improve pullout visibility by passing traffic would likely be absorbed with operational funding and staffing increases and any impact would be negligible and adverse on specific days while modifications are being implemented. Improved visibility for passing traffic and law enforcement personnel would facilitate traffic flow and visitor safety, thus reducing law enforcement requirements in this area. These changes would provide a long-term minor to moderate beneficial impact on park operations. Overall, impacts on operations would be long-term minor to moderate and beneficial due to enhanced visitor services and safety, reduced law enforcement needs, and more informed visitors.

**Segment 2: Roanoke.** Pursuing the development of paved multiuse trails parallel to, but separate from, the parkway would have adverse and beneficial impacts on operations. Initial partnership, planning, design, and construction oversight work would require dedicated staff time and could hinder other efforts called for under alternative C. However, much of the work would be project funded and implemented by contractors, which would mitigate the adverse impact of redirecting staff time to this effort. Once completed, the trails would reduce user conflict on the roadway and law enforcement response needs, which would be beneficial to operations. However, maintaining the trails for visitor safety and quality experience would continue to require staff time and operational funding in the long term. Assuming that operational funding and staffing increases under alternative C absorb the short-term work from partnership development to final construction and long-term maintenance needs, this effort would have long-term minor to moderate beneficial impacts on operations.

Also, the redesign of some overlooks to greatly enhance visibility of the parking area to passing traffic would reduce traffic flow issues, enhance safety, and result in fewer law enforcement incident responses and presence to monitor these areas. These changes would provide long-term minor to moderate beneficial impacts on park operations. Implementing the actual redesign would likely be accomplished through project funding with minimal staff time to deal with planning and contracting responsibilities, which would likely be absorbed by operational budget increases. Given heavy visitor use in this area and increasing population in the city of Roanoke, some of the operational funding increase would need to be used to enhance law enforcement presence in this segment, which would improve efficiency and visitor safety, resulting in a minor to moderate beneficial local impact. The parkway would also expand their information and orientation capabilities at Explore Park. This would require some additional staff time and operations expenditures, but the overall impact would be mitigated by using partner resources to assist in implementation. Overall, the impact on operations in segment 2 would be long-term, minor to moderate, and beneficial.

**Segment 3: Plateau.** The Kelley School/Harris Farm area would be managed as a visitor use and education attraction in partnership with universities. Initially, partnership and contracting work would be needed to implement this idea, which would require staff time and expenditures, although the impact would be relatively negligible given the operations budget increase. In the long term, additional interpretation and education staff and maintenance work would be needed to ensure a safe and educational visitor experience but impacts would be negligible because resource needs would be shared with partners. Placing a greater emphasis on Kelley School and the Harris Farm for visitor use and education would not only benefit visitor experience, but also the viability and protection of these cultural sites. Partnerships would place additional demands on park staff; however, new partnerships with universities

and nonprofits would mitigate the impacts on park operations, thereby resulting in long-term minor to moderate beneficial impacts over the long term.

**Segment 4: Highlands.** Under alternative C the parkway would seek to improve visitor information and orientation services in the Boone/Bowling Rock area. The information desk would be staffed and programs could be provided at a site off the parkway, such as downtown. The goal would be to increase the number of visitor contacts a great deal from current levels. This would be a beneficial impact on park operations by having better informed visitors that are less likely to cause resource damage, etc. Although additional staff time would be required to implement this action, the expense is likely to be absorbed by the operation budget increases. Due to a better informed visitor and improved services, overall impacts on operations would be long-term, minor, and beneficial.

Also, pursuing the development of paved multiuse trails parallel to, but separate from, the parkway would have adverse and beneficial impacts on operations (this includes the Julian Price Memorial Park recreation area, if determined to be feasible). Initial partnership, planning, design, and construction oversight work would require dedicated staff time and could hinder other efforts called for under alternative C. However, much of the work would be project funded and implemented by contractors, which would mitigate the adverse impact of redirecting staff time to this effort. Once completed, the trails would reduce user conflict on the roadway and law enforcement response needs, which would be beneficial to operations. However, maintaining the trails for visitor safety and quality experience would continue to require staff time and operational funding in the long term. Assuming operational funding and staffing increases under alternative C absorb the short-term work from partnership development to final construction and long-term maintenance needs, this effort would have long-term minor to moderate beneficial impacts on operations.

**Segment 6: Asheville.** Under alternative C, additional impacts on operations in the Asheville area would be due to the development of additional parking for recreational users. Parking development would likely be project funded and not affect the operational budget outside of the need for some park staff to assist with planning and compliance work. Additional parking would need to be maintained periodically by maintenance staff; however, impacts from this action would be short-term and likely absorbed by operational funding increases under this alternative.

Also, pursuing the development of paved multiuse trails parallel to, but separate from, the parkway would have adverse and beneficial impacts on operations. Initial partnership, planning, design, and construction oversight work would require dedicated staff time and could hinder other efforts called for under alternative C. However, much of the work would be project funded and implemented by contractors, which would mitigate the adverse impact of redirecting staff time to this effort. Once completed, the trails would reduce user conflict on the roadway and law enforcement response needs, which would be beneficial to operations. However, maintaining the trails for visitor safety and quality experience would continue to require staff time and operational funding in the long term. Assuming operational funding and staffing increases under alternative C absorb the short-term work from partnership development to final construction and long-term maintenance needs, this effort would have long-term minor to moderate beneficial impacts on operations.

Connecting the multiuse path with community trails and adding pedestrian/bike lanes to bridges would require additional law enforcement presence in certain areas, but enhance visitor safety, reducing incident response needs. The parkway would also explore the possibility of establishing a staging area for the city of Asheville shuttle system, which would require additional staff time to implement. Overall, the impact on operations in the Asheville area would be long-term,

minor, and beneficial due to the ability of staff to provide safe visitor opportunities beyond those that currently exist.

**Segment 7: Pisgah.** Under alternative C, operational impacts in segment 7 would be focused on the redesign of pull-off parking areas, installing new wayside, and partnership work to given the narrow right-of-way at the south entrance. Additional impacts would result from modifying the landscape to protect natural resources and managing invasive plants. The impact on operations would be an increase in staff time and funding to build relationships and develop agreements with adjacent landowners to provide parkway information and orientation. Depending on funding level and the priority of this effort under alternative C relative to other actions, the operational funding increase could absorb this work, resulting in long-term minor to moderate beneficial impacts on operations.

Modifying designed landscapes to protect natural resources could include additional staff time from resource management and science; planning, lands, and compliance; and maintenance and engineering. Modifying drainage structures could be done with project funds, but some operational funding would likely be required. Developing a comprehensive invasive plant management strategy would take additional effort of planning and resource staff, but would likely be completed with project funds, minimizing budget impacts. In the long-run, this approach would yield efficiencies that would have minor to moderate beneficial impacts on operations related to operations related to managing natural resources. Overall, impacts would be long-term, minor to moderate, and beneficial.

### **Parkway Recreation Areas**

Impacts not previously discussed in the parkway-wide section or parkway segment analysis above are included in the recreation area analysis.

The management zones applied to all of the recreation areas along the parkway, from Humpback Rocks in the north to Mt. Pisgah in the south, under alternative B would require a concerted and coordinated effort across the parkway's divisions to ensure that specific resource conditions, visitor experience, appropriate recreational activities, and levels and types of development are both achieved and maintained. Eight management zones are designated for the parkway and each would require the focus and attention of certain divisions and staff. For example, the natural resource zone under alternative C would require the dedication and time of the resource management and science staff, as well as partnership and external affairs staff, to maintain the broad ecological integrity of the parkway. Multiple divisions would need to coordinate to effectively achieve and maintain the conditions and experiences called for in each zone. The addition of management direction by zone decreases decision making on a case-by-case basis and leads to efficiencies as staff are all working toward a common set of desired outcomes. Overall impacts from the application of management zones would be long-term minor to moderate and beneficial.

**Humpback Rocks.** The effort to mark the Howardsville Turnpike route and improve interpretation for visitors would require additional planning and interpretation staff time. The operations extension and route marking would likely be absorbed with operational funding increases and would have long-term minor to moderate beneficial impacts on operations. In addition, increasing the capacity of the visitor contact station, linking site trails with U.S. Forest Service trails and Sherando Lake facilities would require additional staff time across multiple divisions and relatively large amounts of project funding to minimize impacts on the operations budget. In the long term additional facility maintenance, trail maintenance and law enforcement patrol needs would impact the budget, despite the likelihood that much of the long-term funding increase would be absorbed by increases to the budget. Some long-term beneficial impacts would be

realized as a result of fewer bicycle and vehicle conflicts along the parkway road and the ability to better manage increasing visitation. Overall, the impacts at Humpback Rocks would be long-term minor to moderate and beneficial due to enhanced services and facilities.

**James River/Otter Creek.** Operations under alternative C would be impacted due to the change in the function of the Otter Creek Trail visitor contact station to a wayside shelter would reduce operational expenditures because fewer interpretation and education staff and maintenance resources would be directed at this underused facility. These resources could be used elsewhere, which would have long-term minor beneficial impacts on operations.

Under alternative C, unlike alternative A, the parkway would manage park operations at a low-level outside of the visitor service areas. Although this would require fewer law enforcement staff, managing the large natural zone to meet desired conditions and visitor experiences would require a more concerted effort on the part of resource management and science staff. More staff time and resources would be required to work on dam and spillway removal as part of wetland restoration of the lake. Although most of these actions would be absorbed by the increase in the operations budget, some negligible to minor adverse impacts could be felt given the need to reprioritize staff focus. Beneficial impacts would result from discontinuing dredging, which could help offset the staff and funding increase of the other actions.

Realigning the trail between the restaurant and lake would require planning, lands, and compliance and trail maintenance staff time to implement, but would provide for more efficient operations in the area given increasing use levels. If the trail expanded to a multiuse trail, additional law enforcement time may need to be focused in this area. Overall, these actions would have a minor beneficial impact on operations. Additional trail capacity and a large recreational zone would require additional law enforcement

time in the area, but would also mitigate future trail user conflicts, trail damage, and corresponding maintenance needs with increasing visitation.

Improving RV access to a portion of the campground at Peaks of Otter by widening the entrance and one of the loops, increasing turning radii, and enlarging RV parking spaces would require additional time from resource management and science and planning, lands, and compliance staff in the short term, despite a lot of planning, design, and construction work being project funded and implemented through contracts. Maintaining this infrastructure would likely be absorbed with operational funding and staffing increases.

Overall, impacts on operations would be long-term, minor to moderate, and beneficial due to enhanced visitor services, facilities, and reduced staff needs at the wayside shelter, discontinued dredging, and low park operations outside visitor service areas.

**Peaks of Otter.** Stabilizing Saunders farm and rehabilitating the landscape at Johnson farm would require relatively high levels of funding and staff resources. This could be mitigated with outside and/or project funding, but could result in short-term minor adverse impacts on the budget and because some staff may have to be redirected from other efforts. Improving RV access to a portion of the campground at Peaks of Otter by widening the entrance and one of the loops, increasing turning radii, and enlarging RV parking spaces as well as converting some campsites to rental cabins would require additional time from resource management and science and planning, lands, and compliance staff in the short term, despite the fact that much of the planning, design, and construction work would be project funded and implemented through contracts. Maintaining this infrastructure would likely require some additional maintenance staff time that would be absorbed by operational budget increases. Overall impacts on operations would be long-term, minor, and beneficial due to the staff's ability to enhance services and cultural resource protection.



**Roanoke Mountain.** No additional impacts not already discussed.

**Smart View.** If improvements to the existing picnic area are made, they would likely be made with project funding and changes to maintenance needs over the long term would be minimal. Impacts on operations would be long-term, negligible to minor, and beneficial as a result of improved facilities and the ability to absorb the staff and expenditures with the increased budget.

**Rocky Knob.** Converting the visitor contact station to a trailhead shelter when the visitor contact facility is established at Mabry Mill would reduce the number of interpretation and education staff and maintenance resources needed at this location, which would benefit operations in the long term. Phasing this facility conversion to follow the establishment of the Mabry Mill visitor contact station allows staff and operational funding to be stretched across multiple years, migrating potential budget stresses and ensuring effective operations from year-to-year. Implementation of potential improvements to the existing picnic area would likely use project funding to implement, but would enhance visitor services. Managing historic settlement sites as a cultural landscape, with interpretive waysides, self-guiding trails, and guided walks would require additional staff time, particularly cultural resource, interpretation, education, and law enforcement staff. This operational increase would likely be absorbed by the budget increase and enhance visitor services and facilities in this area, resulting in long-term minor to moderate beneficial impacts.

Improving RV access to a portion of the campground at Peaks of Otter by widening the entrance and one of the loops, increasing turning radii, and enlarging RV parking spaces as well as converting some campsites to rental cabins would require additional time from resource management and science and planning, lands, and compliance staff in the short term, despite the fact that much of the planning, design, and construction work

would be project funded and implemented through contracts. The addition of maintenance staff time to this infrastructure would likely be absorbed with operational funding. This would enhance overnight visitor accommodations in the long term and annual operating expenditures could be absorbed, resulting in long-term minor to moderate beneficial impacts on operations. Overall, impacts on operations would be long-term minor to moderate and beneficial.

**Mabry Mill.** Improving interpretation would require short-term investments to develop diverse presentations, but would result in more educated visitors less likely to damage key resources. This would lead to beneficial impacts across multiple divisions. Redesigning circulation and way finding would require some planning, lands, and compliance; resource management and science; and maintenance and engineering staff to plan and oversee these changes. More staff time and dollars would also be needed to plan for and oversee the adaptive reuse construction of the restaurant into a visitor contact station if its services are discontinued. Although this work would be implemented through project funding, some short-term operations dollars may be needed, which could adversely impact the budget and redirect staff from other work. Exploring the opportunity to develop a multiuse trail between Mabry Mill and Meadows of Dan would require staff time during initial exploration phases and additional time to oversee planning and construction, which would be project funded. The full build-out of upgrades and changes would increase overall functionality and usability of the area and overall impacts would be minor to moderate and beneficial in the long term. By providing additional visitor services, enhanced circulation, way finding, and recreational opportunities, overall impacts on operations would be minor to moderate and beneficial in the long term.

**Blue Ridge Music Center.** The expansion of information and orientation capabilities would require interpretation, education, and partnership staff time that would likely be absorbed by operations budget increases.

Enhancing services would lead to long-term minor to moderate beneficial impacts on operations in the music center area.

**Cumberland Knob.** Under alternative C the visitor contact station would be restored to its historic appearance and visitor services would be enhanced through dedicated staffing, exhibits, etc. Additional infrastructure improvements, such as trails and picnic sites would also be developed. These actions would require increases in funding and staffing in both the short and long term. Planning and construction of the infrastructure would likely be project funded, but additional interpretation, law enforcement, and maintenance staff time would impact the budget in the long term. Overall, however, these actions would primarily be absorbed by the operational budget and result in minor to moderate beneficial long-term impacts on operations.

**Doughton Park.** Under alternative C, improvements would be made to better accommodate equestrian use in the area. Short-term impacts on the budget could result, but if priorities are established, constructing trailhead parking and providing equestrian backcountry campsites could be implemented with the help of project funds and outside grants, minimizing budget impacts. Overall operational efficiency would be increased due to more efficient parking and marked trails, reducing law enforcement efforts in the area. This would have long-term minor beneficial impacts.

Altering the management strategy at Brinegar Cabin to replicate the historic landscape would require additional staff time and expenditures that would likely be absorbed by the budget increase. This is also true for staff time to convert some tent sites to RV sites. Impacts due to changes in management strategies and campsite conversions would be minor to moderate and beneficial in the long term. Overall operational impacts from these changes would be long-term, minor to moderate, and beneficial.

**Julian Price Memorial Park.** Under alternative C, an increased focus on resource management at Julian Price Memorial Park to protect wetlands would likely require additional time, attention, and funds to be directed to this area to adequately direct landscape management practices at this location. This would have a moderate beneficial impact on operations if the operations budget increase is able to absorb the additional staff time and dollars required to make this management emphasis shift.

Upgrading the comfort stations in the picnic area, upgrading existing trails and constructing new trails, and improving site signage would require staff time and expenditures in the short term. Comfort station upgrades and new trail construction would likely be project funded, whereas other upgrades and enhancements would likely be absorbed by the operational budget increase. In the long term, enhanced way finding and additional trails would better facilitate increased visitation, but the infrastructure upgrades would require additional maintenance time and funding. The full build-out of upgrades and changes would increase overall functionality and usability of the area and overall impacts would be minor to moderate and beneficial in the long term.

Also, refer to the above segment 4 (Highlands) analysis regarding the effects of the proposed multiuse trail through portions of Julian Price Memorial Park.

**Linville Falls.** Operations under alternative C would be impacted by infrastructure and visitor facility changes, including converting the visitor contact station to a trailhead shelter, relocating the contact station function outside of the floodplain, redesigning the picnic area, improving the maintenance facility and area landscaping, improving RV access and campground upgrades, and formalizing recreational access. In the short term, planning, lands, and compliance and maintenance and engineering staff would be required to plan and oversee these changes. Short-term construction related funding would be project based, but in the long term,

additional maintenance staff and time would be necessary to keep the facilities safe and functional, which would have to be absorbed by the operations budget increase.

Improvements to the maintenance facility would have minor beneficial impacts in the long term as would managing for low-visitor-use levels and minimal visitor interaction. Overall, the changes under alternative C would enhance the ability of the parkway staff to provide for efficient and safe visitor services, which would result in a minor to moderate long-term beneficial impacts.

**Crabtree Falls.** Under alternative C, fewer law enforcement staff and time would be needed to manage for low-level visitor use and minimal visitor interaction, which would have minor beneficial impacts in the long term. Improving RV access and campground upgrades would require some staff time in the short term during planning and construction and could require additional maintenance needs in the long term, which would be absorbed by the operations budget increase. Overall, the impacts on operations would be minor to moderate and beneficial as a result of more efficient visitor facilities and the ability to better meet the parkway mission.

**Craggy Gardens.** Under alternative C the grassy bald would be restored to its historic size. This would require a sustained effort on behalf of the resource management and science and maintenance staff over the long term, which would primarily be funded through the operations budget, which could potentially have minor adverse impacts over time if other operations have to be scaled down or not completed. Strategic management of budget increases could mitigate this impact and reduce it to be almost unnoticeable. Additional resource management and science and law enforcement staff time would be needed to monitor sensitive resources and research, apply, and adjust management actions (e.g., signs, physical obstructions, staffing, education) as needed to meet desired resource conditions. Additional staff or budget would likely be absorbed by the operations budget increase and when combined, these actions

would protect resources to more effectively meet the parkway's mission, resulting in minor to moderate long-term beneficial impacts on operations.

**Mt. Pisgah.** Landscape and other restoration projects at the Buck Spring Lodge would likely be project funded, keeping operational expenditures to a minimum. Rehabilitation of tent camping sites adjacent to the bog and converting some existing RV sites to tent camping sites would require maintenance and engineering and resource management and science staff time and effort in the short term, but would likely be absorbed by the operations budget increase if properly prioritized and planned for in annual budget cycles. Long-term maintenance and management of the area to protect the bog, in addition to the need for additional law enforcement staff to restrict visitor use to trails would impact the operations budget adversely if the operations budget couldn't absorb it. Overall impacts on operations would be long-term minor to moderate and beneficial due to enhanced resource management combined with staffing and funding increases under alternative B.

Overall, the proposed changes in alternative C would provide operational efficiencies across the parkway, including within each segment and recreation area. The presence of an overarching plan in conjunction with large increases to the annual operations budget would allow the parkway to hire additional staff to address the maintenance backlog, enhance visitor experiences and amenities, and better protect resources and deal with external threats. Collectively, the impacts on park operations under alternative C would be long-term, minor to moderate, and beneficial.

### **Cumulative Effects**

The recreation and tourism enhancements, development of private lands, road construction and improvements, and resource protection impacts at the cumulative level would be the same as in alternative A. Past, present, and reasonably foreseeable future

actions would require an increasing amount of staff time and operational funding as surrounding communities and areas continue to experience population growth and corresponding development of infrastructure that impacts the parkway. Managing the impacts of transportation improvements, external resource protection and recreation and tourism efforts would have long-term minor to moderate adverse cumulative impacts on park operations, primarily because a portion of the operations budget would be spent on managing external pressures. However, beneficial impacts are realized due to these expenditures because the parkway is able to continue to meet its mission given the ever-changing environment that surrounds the parkway. Overall cumulative impacts on operations are long-term, minor to moderate, and adverse.

When the likely effects of implementing alternative C are added to the effects of past, present, and reasonably foreseeable future actions, there would be long-term minor to moderate beneficial cumulative impacts on park operations. Alternative C would contribute a large increment to this cumulative impact. The proposals in

alternative C in combination with additional operational dollars and staff would be better able to overcome the external adverse threats to park operations than in alternative A.

## **Conclusion**

Alternative C would have minor to moderate long-term beneficial effects to park operations primarily as a result of an increase in the operations budget and staffing levels, comprehensive guidance, enhanced partner outreach and collaboration, an ecosystem approach to managing natural resources, paved multiuse trail development, and the ability of staff to appropriately deal with the maintenance backlog. When combined with the potential impacts related to increasing development adjacent to the parkway, the need to manage recreation enhancements that impact parkway operations, and the need to manage partnerships to protect resources and scenic viewsheds, alternative C would have a long-term minor to moderate beneficial cumulative impact on park operations. Alternative C would contribute a large increment to this cumulative impact.

# REGIONAL SOCIOECONOMICS

## INTRODUCTION

The assessment of socioeconomic effects on the human environment surrounding the Blue Ridge Parkway reflects the professional judgment of parkway staff, NPS planners, and an interdisciplinary team of outside specialists assisting the NPS staff. This assessment describes the potential impacts of the management alternatives at two scales: (1) a parkway-wide scale assessing the overall effects of broader programmatic actions affecting all or much of the parkway; and, (2) a focused assessment of more local or site-specific actions affecting one or more parkway segment or recreation area(s).

The principal connections between parkway management actions and policies and the socioeconomic environment include the following:

- actions which affect levels of overall visitor use and spending including types, levels, seasonality, and geographic distribution
- National Park Service staffing, payroll, maintenance and operating outlays
- capital construction, equipment and professional services outlays for goods and services from parkway concessioners
- lifestyles, attitudes, and established social relationships among groups and organizations formally or informally affiliated with the parkway

## METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

Socioeconomic impacts would be tied to the effects of the management alternatives on visitor use and spending, parkway operations, access/circulation, concession operations, and land use and ownership. The “Visitor Use and Experience” section addresses the long-term effects of visitor use associated with the three

alternatives. Potentially affected parties include visitors, adjacent landowners, municipalities, residents and other parties economically influenced by the parkway and concession contracts and commercial use authorizations that rely economically on the parkway. Linkages between visitor use and the socioeconomic environment are assessed based on established economic and social relationships as described in chapter 3, an understanding of how parkway operations affect local economies, the Money Generation Model (Version 2), and the professional judgment of the analysts and preparers.

Economic and social impacts associated with the alternatives are assessed in terms of scale/intensity, duration, and type/character.

### Scale/Intensity

The scale or intensity of impacts refers to the change(s) associated with the alternatives when compared to current and future conditions under alternative A. In addition to the relative magnitude of changes, factors considered in assessing scale and intensity include the likelihood of people being aware of the changes, the ability to measure the changes and/or effects of those changes, and the number of people or areal extent of the region that would be affected.

**Negligible:** Effects on the socioeconomic environment would be nonexistent, barely detectable, or detectable only through indirect means and with no discernible impact on local social or economic conditions.

**Minor:** Effects on the socioeconomic environment would be small but detectable, comparable in scale to typical year-to-year or seasonal variations, affect few people in a relatively small area or limited number of communities, and not expected to alter established social or economic structures and conditions to any substantive degree.

**Moderate:** Effects on the socioeconomic environment would be apparent or observable across a wider geographic area, affect many people, and could have noticeable and enduring effects on established economic or social structures and conditions.

**Major:** Effects on the socioeconomic environment would be readily apparent or observable across a wide geographic area, affect a large segment of the population, extend across much of a community or region, and have substantial influence on, or even shift, established social or economic conditions and structure.

### Duration

Social and economic changes caused by an alternative may be temporary or last for an extended time. Temporary or short-term impacts may be noticeable locally, but not result in enduring changes to underlying economic and social conditions of the region. Long-term impacts, on the other hand, may lead to fundamental and enduring changes in the economic base, construction or closure of public facilities, changes in real estate markets, how people and groups relate to one another, and other changes in established social and economic conditions. Many long-term effects would extend beyond the life of the approved general management plan, and could in some cases, be permanent.

**Short-term:** Short-term effects are those that occur during and in response to planning, design, construction, and maintenance of buildings, trails, parking areas, and other facilities. These effects diminish or disappear after the activity is completed. The “short term” may include the initial response(s) in social or economic conditions to fundamental changes in park management and operations and changing visitor use, which give way to broader changes over time. Generally, “short-term” describes effects lasting up to five years. The short term, however, is not a specific five-year period tied to the signing of the “Record of Decision”. Distinct actions could each

trigger short-term effects, such that there are multiple “short-term” time horizons.

**Long-term:** Long-term effects are generally those lasting longer than five years, including some that may not begin until after completion of direct activities associated with the initial federal government spending or changes in management associated with an alternative. Such changes include increases in the parkway’s base budget for operations and maintenance and effects related to changes in visitation over time.

### Type/Character

Social and economic consequences may be beneficial, adverse, or indeterminate.

**Beneficial:** Effects that many individuals or groups would accept or recognize as improving economic or social conditions, either in general or for a specific group of people, businesses, organizations, or institutions. Examples of beneficial effects include lower unemployment, higher personal income, and economic and social diversity and sustainability.

**Adverse:** Effects that most individuals or groups would accept or generally recognize as diminishing economic or social welfare, either in general or for a specific group of people, businesses, organizations, or institutions. Examples of adverse effects include fewer job opportunities, increases in the cost of living without matching increases in income, or an erosion of public sector fiscal resources to fund public facilities and services.

**Indeterminate:** Effects for which the size, timing, location, or individuals or groups that would be impacted cannot be determined, or those that include both beneficial and adverse effects, in some instances affecting different communities, populations, or public entities or jurisdictions, such that the net effect is indeterminate.

## **ALTERNATIVE A—NO-ACTION**

### **Parkway-wide**

Maintaining current management practices under alternative A would result in subtle, long-term changes in the socioeconomic connections between the parkway and surrounding region. Catalysts for most of these changes would emanate outside the parkway, placing the parkway in a more reactive than proactive posture. Annual recreation visitor use to the Blue Ridge Parkway would trend upwards over time in response to population growth in the Asheville and Roanoke metropolitan areas and more distant metropolitan areas including the Washington, D.C./Baltimore metroplex, Atlanta, Raleigh-Durham, and Knoxville, as well as tourists coming from further afield. However, year-to-year fluctuation in visitor use would occur such that recreation visitation in any given year may be lower than the preceding year. Overall visitor use would climb over time, though not necessarily uniformly.

Subtle shifts in recreation use patterns, such as a relative increase in day use as compared to overnight use, would occur. Rising visitor use, aging parkway infrastructure, and increased development pressures adjacent to the parkway would collectively contribute to needs for higher authorized staffing levels and operating and capital outlays. However, actual levels of future funding would reflect congressionally approved funding for the National Park Service and the parkway's ability to compete for such funding. Actual funding levels would be expected to remain within the historical range.

### **Visitor-Related Economic Impacts.**

Parkway-related visitor spending in the region would increase under alternative A, maintaining the parkway's role as a vital element of the region's heritage tourism and outdoor recreation economy. Spending directly associated with recreational visits to the parkway, including spending for overnight lodging, meals, fuel and various merchandise, would increase, as would visitor spending on

crafts, entertainment and other goods and services before and after their actual use of the parkway. Higher visitor spending would likely occur in communities along the parkway's entire length, although not uniformly. Asheville, Roanoke, Boone/Blowing Rock, and other larger communities in the region, that offer wider ranges of goods and services and are close to the parkway, are likely to capture increased shares of the spending. Parkway concessioners would garner some of the spending, but business establishments near the parkway and in nearby communities would realize greater benefits from the increased spending. Other businesses and governmental entities in the region would benefit indirectly from the increased visitor spending.

Visitor spending and the economic stimulus it provides in local economies would continue to be highly seasonal. The seasonal variation of spending, among other factors, would continue to challenge the long-term financial viability of some concessions, increasing the likelihood of one or more of these operations ceasing operations. Should current concession operations become economically unviable, recruiting new operators may be difficult. Reduced availability of concession services in the parkway under alternative A would benefit establishments near the parkway due to the displacement of demand from the parkway to nearby locations.

Visitor spending would directly and indirectly support jobs, payrolls, and proprietor income in the tourism and hospitality related sectors of the economy. State and local governments would benefit from fees and taxes linked to the visitor spending.

As a result, the incremental economic contributions to the region from visitor spending under alternative A would be long-term, beneficial, and minor to moderate.

**Economic Impacts Related to NPS Operations.** Authorized staffing at the Blue Ridge Parkway would be expected to remain near its current level. Current staffing includes many vacancies due to funding shortfalls and

difficulties recruiting qualified candidates, as well as many temporary positions and a large cadre of volunteers, which augment the parkway's permanent staff. The parkway would continue to rely on temporary positions and volunteers to provide services. Economic impacts related to operations would remain similar to today, with annual operating and payroll expenditures directly providing some NPS jobs and indirectly benefiting the area's economy due to employee spending and other NPS expenditures.

The economic contributions associated with NPS operations under alternative A would be long-term, mostly beneficial, and negligible to minor.

#### **Effects on Regional Heritage Tourism.**

Parkway management and staff would continue to encourage and participate in partnerships focused on natural, cultural, and visual resource education and conservation. The parkway would continue to serve as a featured destination and critical, unifying element in regional heritage tourism and outdoor leisure promotion efforts including the Blue Ridge National Heritage Area in North Carolina and "The Crooked Road"<sup>4</sup> and "HandMade in America" auto-route trails<sup>5</sup> in Virginia (The Crooked Road 2009; HandMade in America 1998, 2002, 2009). Specific activities and levels of participation would depend on staffing and budget availability. Continuing resource constraints would likely limit direct participation by NPS staff to efforts focused within parkway boundaries under alternative A.

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<sup>4</sup> "The Crooked Road" refers to a 250-mile highway route in southwestern Virginia that promotes tourism and economic development by focusing on the region's unique musical heritage. See <http://www.thecrookedroad.org>.

<sup>5</sup> HandMade in America is a nonprofit organization that promotes economic revitalization through the promotion of regional heritage, handmade crafts, and culture in western North Carolina. The organization has identified and published guides for two auto-route "trails." See <http://www.handmadeinamerica.org>.

The economic effects on regional heritage tourism development associated with regional heritage tourism under alternative A would be long-term, mostly beneficial, and negligible to minor.

#### **Effects on Communities, Local Governments, and State Agencies.**

Implementation of alternative A would not directly affect regional population growth, housing demand, or demands on other public facilities and services. Effects on facilities and services, including local and regional highway transportation networks and emergency service providers would mirror changes in annual visitor use, with such effects dispersed over the length of the parkway. Management of the Blue Ridge Parkway under alternative A would continue to support local interest in traditional Appalachian lifestyles and attitudes through exhibits, arts and crafts demonstrations, musical events, and other activities.

The incremental indirect effects on communities, local governments and state agencies associated with parkway management under alternative A would be long-term, mostly beneficial, and negligible to minor.

At the parkway-wide scale, implementation of alternative A would leave established visitor use patterns, parkway staffing and operations, economic linkages between the parkway and nearby communities, land use patterns and trends, and ties to local lifestyles and attitudes largely unaltered, although some increase in visitor use and related economic effects would be foreseeable. However, some differential effects would be expected along the extended length of the parkway. Such effects are described below, under each specific parkway segment.

#### **Parkway Segments and Recreation Areas**

Additional impacts at the segment and recreation area scale are considered below if



not already included in the impacts analysis included above at the parkway-wide scale.

**Segment 1: Ridge.** Growth in visitor use over time would likely be higher in the Ridge segment than across the parkway as a whole. Factors contributing to this difference include projected local population growth, the parkway's northern entrance functioning as a gateway to the growing metropolitan populations in northern Virginia and connection to the Shenandoah National Park, and the Peaks of Otter concession. The latter is the sole prominent year-round lodging and dining establishment operating in the park. The increases in visitor use and expenditures would support additional indirect and induced jobs and income in nearby communities. Implementation of alternative A would require little additional capital spending beyond that associated with large cyclic maintenance work.

**Segment 2: Roanoke.** This segment of the parkway traverses portions of the Roanoke metro area, the second most populous urban area along the parkway. The primary changes in visitor use and connections between the Blue Ridge Parkway and surrounding environment in the Roanoke segment would arise primarily due to growth and development outside the park, rather than being attributable to effects related to management under alternative A. Local use, including local commuting travel and bicycle use, would likely increase more rapidly than nonlocal use. Implementation of alternative A would not require capital construction spending beyond the normal cyclic maintenance associated with aging road and campground infrastructure. Increasing resident and visitor use of the area would result in additional induced and indirect economic stimulus in the region.

**Segment 3: Plateau.** The area surrounding the Plateau segment is the least populous of the entire Blue Ridge Parkway region and it is projected to experience the least population growth through 2030. Consequently, long-term increases in recreation use in the Plateau segment would be primarily due to general

increases in travel along the parkway and heritage and cultural tourism events, parkway programs, and interpretation activities associated with the Blue Ridge Music Center and similar facilities nearby but off the parkway. Future increases in visitor use would trigger additional induced and indirect economic stimulus in the region, benefitting an area having an economy that is less diversified and generally weaker than that of other areas along the parkway.

**Segment 4: Highlands.** The economic and social connections between the parkway and adjacent region are perhaps the strongest and most evident in the Highlands segment. The strong linkage results from the parkway's proximity to the Boone/Blowing Rock communities and in particular to the Moses H. Cone and Julian Price memorial parks, the Northwest Trading Post, and Cumberland Knob and Doughton Park recreation areas. Recreation use at these areas combines with long-distance and local travel along this segment to produce some of the higher traffic volumes on the entire parkway. In the Boone/Blowing Rock area, residential and commercial development near to and visible from different vantages along the parkway create a strong sense of a gateway connection between the communities and parkway and provides ready access to traveler support services. The proximity of the parkway to these communities aids in the recruitment of seasonal employees and volunteers to help staff the various visitor centers. Continued management under alternative A would sustain those connections.

Concession services at Doughton Park would be maintained as long as economically feasible. However, should these services be eliminated, currently used structures would be adaptively reused. Closure of a concession would result in some indirect job losses, although some of the loss may be offset by gains outside the parkway associated with displacement of visitor expenditures and demand.

**Segment 6: Asheville.** The highest traffic volumes along the parkway occur in this

segment and visitor data suggest that the Asheville area is a key gateway community for the entire parkway. This segment contains the parkway's headquarters, the Folk Art Center, and the recently opened Blue Ridge Parkway Visitor Center. The latter is affiliated with the Blue Ridge National Heritage Area, which encompasses 25 counties and Qualla Boundary in western North Carolina. The world famous Biltmore Estate is readily accessible from the parkway and the Asheville area has gained recognition as an attractive community for retirees, second home development, and a base of operations for individual professionals and small professional service companies whose economic livelihoods provide them a high degree of flexibility in workplace location choice. As a result, the region has experienced more rapid population growth than other segments of the parkway, a trend that is anticipated to continue over the life of this general management plan.

Recreational use by local residents, particularly trail use and other day use activities has risen in response to the rapid population growth. The parkway and numerous other attractions in the region create a synergy generating a strong economic infusion to the region, supporting multiple millions in annual business revenues for local lodging, dining, and other retail and service establishments. These sales translate into jobs, tax revenues, and investment. Unlike in many of the other locations, where public lands abut the parkway, private lands border much of the parkway in this segment. New commercial and residential development spawned by recent population growth has brought the boundary of urban development into close proximity to the parkway in many locations in this segment.

**Segment 7: Pisgah.** The Pisgah segment contains much of the parkway's most rugged terrain, higher elevations, curvy roads, and extensive scenic vistas. The northern portion of this segment is bordered by the Nantahala National Forest and is more distant from communities than many locations on the more northerly segments. The Mt. Pisgah recreation

area, including the Pisgah Inn, is in this segment. The southern portion of this segment crosses the Maggie Valley, an area that has seen substantial growth and development, prior to entering into and crossing through the Qualla Boundary / Cherokee Indian Reservation. The southern end of the parkway intersects one of the primary access roads to the Great Smoky Mountains National Park near that park's Oconaluftee Visitor Center and the town of Cherokee. Traffic volumes and average travel speed on this segment are among the lowest on the parkway. The Mt. Pisgah Lodge and tent and RV campgrounds in this segment are among the more popular and heavily used on the entire parkway.

Alternative A would not alter the established economic and community development processes or social interaction patterns in the affected area. Neither would alternative A trigger or induce any noticeable changes in cumulative employment or population growth in the region. Overall, the impacts from actions under alternative A would be negligible to minor in the short-term and the long-term and generally beneficial.

### Cumulative Effects

The parkway, its management, the tourism it supports, and the commuting it accommodates cannot be readily separated from the rich cultural heritage, transportation network, and economic and community development in the surrounding area. In addition to the initial construction of the roadway and associated resource protection, site protection, and restoration activities, other past and present actions in the region include agriculture, forestry, mining, and manufacturing. These activities, along with establishment of the park, are largely responsible for the existing economic structure, community development and infrastructure, and land use patterns. Those uses contribute to the cultural and historical landscapes that are among the parkway's fundamental resources.

Development of the parkway on an alignment generally following ridgelines, and the road connections to the adjacent valleys, which were originally developed to support project construction and provide work force access, now serve as destinations, transportation conduits and gateways for commerce, tourism, and cultural exchange.

Future residential, commercial, and transportation developments near the parkway, along with various resource protection activities are also part of the cumulative scenario. These future developments are generally consistent with projected economic and population growth for the region. Such growth would be accompanied by a broad spectrum of community development and fiscal and social interactions and processes; for example, temporary construction jobs, changes in retail shopping patterns and availability of consumer services, changing demands on public infrastructure and services, and influences affecting social interactions. Cumulative social and economic effects of these actions would also include short and long-term increases in traffic on local roads and long-term changes in land use and additional potential loss of scenic views from the parkway. The development pressures would concurrently bolster habitat and watershed protection efforts by the parkway, local communities, and other interests.

The cumulative developments would have short-term demands on local construction trades, short- and long-term demands on community services, and local changes in visitor use and commuting travel along the parkway. This would result in long-term minor to moderate indeterminate cumulative impacts on the social and economic environment. Combining the likely effects of implementing alternative A with the effects of past, present, and reasonably foreseeable future actions, would result in minor to moderate, short- and long-term, indeterminate cumulative impacts on the social and economic environment. Alternative A would contribute a relatively small amount to this impact.

## **Conclusion**

The economic and social effects of alternative A would include negligible to minor, short- and long-term, economic and social benefits. Long-term social consequences would include assisting in maintaining the region's population base and the parkway's role in supporting heritage tourism, in particular traditional music, arts, and cultures. Overall, the cumulative social and economic effects associated with alternative A would be minor to moderate, short- and long-term, and indeterminate because they include effects that might be concurrently viewed as beneficial or adverse by various individuals, organizations, and stakeholder groups. Alternative A would contribute a relatively small amount to this impact.

## **ALTERNATIVE B (NPS PREFERRED)**

### **Parkway-wide**

Implementation of alternative B would have long-term implications for the socioeconomic connections between the parkway and surrounding region. Catalysts for change include extended visitor information and interpretation services in selected locations for a nine-month season, improvements to campgrounds and some concession facilities, and enhanced outdoor recreation opportunities. These and other actions under alternative B would increase overall levels of recreation visitation on the parkway, particularly day use during the shoulder seasons and overnight visitor use of campgrounds in the parkway. A likely secondary effect of higher visitation during the shoulder season would be an increase in the number of travelers affected by temporary closures of the parkway due to inclement weather.

Visitor use levels would increase along the entire parkway over the long term, as compared to that under alternative A, though not necessarily uniformly. Increases in recreational visitor use would boost business revenues for concessioners, enhancing the

long-term economic viability of some concession operations. Under alternative B, the National Park Service would strive to maintain all presently offered concession services, including options to make upgrades to existing infrastructure and/or adding new facilities.

**Visitor-Related Economic Impacts.** Total direct spending by visitors would increase under alternative B, as compared to alternative A. The largest increases would be outlays for fuel, dining, and lodging. Sales of arts and crafts, as well as merchandise sold by the Eastern National outlets at the Folk Art Center, Moses H. Cone Memorial Park, and Blue Ridge Visitor Center would increase. As with alternative A, the larger shares of the visitor expenditures would be captured in the larger communities along the parkway. Receipts associated with camping in the parkway would increase in response to improvements in tent and RV camping facilities, which would promote higher use and extend the camping season, particularly for RVs.

Enhanced outdoor recreation opportunities would benefit local sporting goods, recreational clothing and equipment retailers, as well as hospitality establishments. Concessioners may alter their merchandise offerings in response to changes in market demands associated with the enhanced recreation opportunities. Local artisans and craftsmen would, as a group, realize increased demand for their products, thereby benefiting the region's heritage tourism economy.

Regional employment, income, and business revenues of suppliers and vendors indirectly related to the parkway would increase under alternative B, as compared to alternative A. In many instances, the effects on employment would include additional work hours for business owners and employees, and extended duration of employment for some seasonal employees.

Increased indirect and induced economic activity associated with alternative B would occur primarily outside the parkway

boundaries. State and local governments would realize additional revenues, for example, sales taxes associated with the increases in visitor use. Some public service providers, emergency medical services, for example, would experience increased demand for services.

The incremental direct and indirect economic contributions associated with visitor spending under alternative B would be long-term, mostly beneficial and minor to moderate, and larger than those under alternative A.

### **Economic Impacts Related to NPS**

**Operations.** Potential increases in visitor use over what is anticipated under alternative A would create additional demands on parkway staff and facilities, as well as the need for more volunteers to aid with interpretation, serve as campground hosts, and staff visitor contact stations over an extended nine-month season in some locations. Rising visitor use, aging parkway infrastructure, and increased development pressures adjacent to the parkway would collectively contribute to a need for authorized staffing levels and operating and capital outlays higher than those under alternative A. Although the actual levels of funding available would reflect congressionally approved funding for the National Park Service and the parkway's ability to compete for such funding, the annual operating budget under alternative B is larger than alternative A. A larger operating budget would allow for additional employees to be hired, increases in direct spending and associated tax revenues. Over the life of the general management plan, implementation of alternative B for such actions as campground improvements, concession facility upgrades, and additional parking and trails, would require higher capital construction spending at the parkway than under alternative A.

Indirect and induced economic activity in the region, and the corresponding jobs associated with parkway operations would likely be higher under alternative B than under alternative A. Although long-term and beneficial, the incremental differences would

likely be limited in scale as compared to existing conditions.

**Effects on Regional Heritage Tourism.**

The Blue Ridge Parkway would actively pursue opportunities with local and regional partners in regional heritage tourism development and cultural preservation to cooperatively plan and implement joint ventures that would be mutually beneficial. Over the long term, the parkway's active engagement in this area would increase staff effort, funding and other resource availability directed to these activities, as compared to alternative A. The development of enhanced outdoor recreation activities may provide sufficient market demand to foster startup or expansions of recreation "outfitters" and guide services in some communities along the parkway and the expanded operating season for some visitor services would support increased tourism promotion efforts of nearby attractions and hospitality establishments.

The indirect economic effects on regional economic development associated with regional heritage tourism under alternative B would be higher than under alternative A and would be long-term, mostly beneficial and negligible to minor.

**Effects on Communities, Local Governments, and State Agencies.** As with alternative A, implementation of alternative B would not be expected to affect regional population growth, housing demand, or demands on other public facilities and services directly. Indirect effects on facilities and services, including local and regional highway transportation networks and emergency service providers would mirror changes in annual visitor use, which are projected to be higher than under alternative A. Management of the Blue Ridge Parkway under alternative B would continue to support local interest in traditional Appalachian lifestyles and attitudes through exhibits, arts and crafts demonstrations, musical events and other activities. The indirect effects on communities, local governments, and state agencies associated with parkway management under alternative B would be

long-term, mostly beneficial, and negligible to minor.

At the parkway-wide scale, implementation of alternative B would result in some changes to established visitor use patterns, parkway staffing and operations, economic linkages between the parkway and nearby communities, land use patterns and trends, and ties to local lifestyles and attitudes. Increased visitor use and related economic effects beyond those associated with alternative A would be foreseeable along the entire parkway over the long term, although not uniformly.

**Parkway Segments and Recreation Areas**

Additional impacts at the segment and recreation area scale are considered below if not already included in the impacts analysis included above at the parkway-wide scale.

**Segment 1: Ridge.** Alternative B includes visitor orientation enhancements to the parkway's north entrance, enhanced trail and recreation opportunities at Humpback Rocks, conversion of the visitor contact station to a wayside shelter and RV and tent campground improvements at Otter Creek, stabilization of the Saunders Farm structures and rehabilitation of the landscape of the Johnson Farm, and RV and tent campground enhancements at Peaks of Otter. Over the long term, these changes would bolster market demand for concession operations at Otter Creek and Peaks of Otter, increase usage rates and campground receipts at campgrounds, support additional jobs, and place higher demands on parkway staff and volunteers. The effects of these changes would support management objectives to maintain concession food and lodging services at Peaks of Otter.

Implementation of alternative B would require moderate capital construction spending to improve the northern gateway/entrance visitor information, complete campground improvements,

redesign some pullouts, and upgrade existing infrastructure or add new facilities to existing concession operations.

**Segment 2: Roanoke.** There is considerable suburban development near the parkway in the Roanoke urban area. Consequently, much of the traffic on the parkway in this segment is associated with commuter travel and local recreation use. Implementation of alternative B would have little effect on those characteristics or the future incidence of land use conflicts in the area.

Alternative B would enhance day use in the Roanoke segment, converting the underused Roanoke Mountain campground to a day use recreation area and seeking to partner with the city of Roanoke for management of the Mill Mountain spur road. Many of the additional visitors to the parkway would come from the nearby surrounding area. The reduction in camping would shift demand to other campgrounds in the parkway or to private campgrounds outside of the parkway and simultaneously reduce demand on parkway staff and volunteers.

Seasonal staffing of a parkway information desk and presentation of programs at an off-site location, in downtown Roanoke, for example, would enhance visitor orientation services regarding cultural and recreation opportunities and availability of services along the entire parkway. Provision of such information would promote improved economic viability for concession operations and economic linkages with communities near the parkway.

**Segment 3: Plateau.** Over the long term, implementation of alternative B would result in increased levels of visitor use at the Rocky Knob and Blue Ridge Music Center recreation areas. Expanded trail options and upgraded campground and backcountry camping would lengthen the duration of stay of some visitors. Hospitality establishments in Galax, Mount Airy, Meadows of Dan, and other local communities would realize increased sales to parkway visitors. Converting the Rocky Knob

visitor contact station to a trailhead shelter, in conjunction with development of a visitor contact facility at Mabry Mill, could reduce demands on parkway staff and volunteers, and concurrently improve the parking availability for day use. Alternative B could include upgrading concessioner infrastructure and/or adding new facilities to enhance the long-term economic feasibility of lodging services at Rocky Knob, supporting the associated jobs and income.

The co-location of the visitor contact station and the concession operations at Mabry Mill would enhance the economic viability of the concession food service operations by boosting sales. Such increases could come at the expense of establishments in nearby Meadows of Dan.

Over time, an increasing number and type of events, demonstrations of traditional music and arts, and other exhibits are expected at the Blue Ridge Music Center under alternative B. Under alternative B, an increase in visitor orientation services and expanded participation in regional heritage tourism projects would further elevate the facility's stature as a key venue in the region's heritage tourism arena. The changes at the Blue Ridge Music Center would function synergistically with those at nearby Cumberland Knob to increase the indirect and induced economic stimulus generated in nearby communities.

**Segment 4: Highlands.** An important change in the Highlands segment under alternative B would be to restore and reopen the visitor contact station at Cumberland Knob and to enhance the infrastructure for trail and picnic use. These changes would function synergistically with those at the nearby Blue Ridge Music Center to increase day use and increase demands on NPS staff and on volunteers.

Campground improvements at Doughton Park and Julian Price Memorial Park, including the conversion of some tent sites to RV sites at Doughton Park, would increase overnight use in the segment, including in the shoulder seasons. The designation of multiuse

(horse/hiking) trails in Doughton Park would also enhance day use. That increase in use would increase the level of indirect and induced economic contributions in the region.

Under alternative B, the parkway would continue to provide concession services at Doughton Park. Doing so may include upgrading existing infrastructure or adding new facilities. Concession revenues and seasonal employment would be higher under alternative B than under alternative A.

**Segment 5: Black Mountain.** No segment-specific management strategies are proposed for the Black Mountain segment under alternative B. Extending parkway operations to nine months at Linville Falls, along with upgrading RV campground sites at Linville Falls and Crabtree Falls, would promote more recreation use and indirect and induced visitor use and economic activity in nearby locations, e.g., the Museum of North Carolina Minerals, Little Switzerland, and Mount Mitchell State Park.

Current food and gift store concessions would be maintained under alternative B. Strategies might include upgrading existing infrastructure or adding new facilities. Such improvements would require additional capital investment and subsequently support more temporary employment, income, and business sales.

**Segment 6: Asheville.** Alternative B would increase the availability of parking for recreational use in this segment, in part to accommodate rising trail and other day use, much of it by local residents. No specific changes to the Folk Art Center are proposed. However, the center would benefit from higher visitation and sales due to increased shoulder season use.

**Segment 7: Pisgah.** Alternative B includes enhanced visitor orientation services at the parkway's southern entrance. Because of the narrow right of way at the south entrance, the parkway would seek to partner with another entity to achieve this goal. The National Park Service would not fund or own a visitor center

facility. Alternative B would close and relocate some tent camping and upgrade RV sites with water and electricity hookups at the Mt. Pisgah recreation area. Campground access redesign would not be undertaken in this location in order to protect natural resources. These changes may affect the experience for some recreation visitors. The relocated tent sites, along with the upgraded comfort stations and addition of electrical and water utility service to the existing RV sites, would continue to support active use of the area.

Concession food, lodging and gift store services at Mt. Pisgah, one of the stronger concession operations on the parkway, would likely remain economically viable. However, if such services became economically unviable, the National Park Service would look to the private sector to provide services outside the parkway and the parkway would adaptively reuse or remove the structures being used for concessions.

The long-term effects of these changes, when combined with the effects of the enhanced southern entrance/gateway in promoting recreation visitor use along the southernmost segments of the parkway, would result in beneficial but minor increases in visitor spending, indirect and induced economic activity, and jobs and income in the Maggie Valley, Cherokee, and elsewhere in the surrounding region.

Alternative B would not trigger or induce any noticeable changes in cumulative employment or population growth in the region; it would not substantively alter the established economic and community development processes or social interaction patterns in the affected area, although slight changes in the seasonal influences attributable to the parkway could result over the long term due to actions associated with alternative B. The higher number of visitors under alternative B could enhance the commercial development potential for parkway concessioners and private businesses in nearby communities and along the access roads to the park. The added social and economic effects arising from alternative B would be of the same type, but

somewhat higher in intensity and magnitude, as those occurring under alternative A. Overall, the impacts from actions under alternative B would be minor to moderate in the short term and long term, and generally beneficial.

### **Cumulative Effects**

Other past, present, and reasonably foreseeable future social and economic actions under alternative B would be the same as under alternative A. Future residential, commercial, and transportation developments near the parkway are generally consistent with projected economic and population growth for the region. Such growth would be accompanied by a broad spectrum of community development and fiscal and social interactions and processes; for example, temporary construction jobs, changes in retail shopping patterns and availability of consumer services, changing demands on public infrastructure and services, and influences affecting social interactions. Cumulative social and economic effects of these actions would also include short- and long-term increases in traffic on local roads and long-term changes in land use and additional potential loss of scenic views from the parkway. The development pressures would concurrently bolster habitat and viewshed protection efforts by the parkway, local communities, and other interests.

The cumulative developments would have short-term demands on local construction trades, short- and long-term demands on community services, and local changes in visitor use and commuting travel along the parkway. This would result in long-term minor to moderate indeterminate, cumulative impacts on the social and economic environment. Combining the likely effects of implementing alternative B with the effects of past, present, and reasonably foreseeable future actions, would result in minor to moderate, short- and long-term, indeterminate cumulative impacts on the social and economic environment. Alternative

B would contribute a relatively modest, generally beneficial amount to this impact.

### **Conclusion**

The economic and social effects of alternative B would include minor to moderate short- and long-term economic and social benefits. Long-term consequences would include assisting in maintaining the region's population base and the parkway's role in supporting heritage tourism, in particular traditional music, arts, and cultures. Overall, the cumulative social and economic effects associated with alternative B would be minor to moderate, short- and long-term, and indeterminate because they include effects that might be concurrently viewed as beneficial or adverse by various individuals, organizations, and stakeholder groups. Alternative B would contribute a relatively modest, generally beneficial amount to this impact.

## **ALTERNATIVE C**

### **Parkway-wide**

Implementation of alternative C would, over time, subtly reshape some established socioeconomic connections between the parkway and the surrounding region. For much of its history, the parkway, along with the neighboring Shenandoah and Great Smoky Mountains national parks, has served as an important unifying, but somewhat insular element of the region's heritage tourism efforts. The established connections are relatively informal, externally based, and predicated on proximity and the highway connections/intersections between the parkway and nearby areas.

Under alternative C, management of the parkway would become more integrated with the surrounding region's resources and economic base. Connections between the parkway's natural resources and scenic qualities and those outside the parkway would



be considered when developing overall management direction and policies.

Management of the parkway would place increased emphasis on community outreach and developing links with regional natural, recreational, and cultural heritage resources and experiences.

Catalysts for change under alternative C include providing year-round visitor services in some locations, more active participation in regional heritage tourism projects, and enhanced outdoor recreation opportunities, such as improved trail connectivity to community trails and greenways outside the park, and access and other improvements at parkway campgrounds. Alternative C would provide for redesign, closure, and relocation of some scenic overlooks and a proactive strategy of land acquisition and protection (one still predicated on working with willing sellers). These and other actions under alternative C would increase the overall level and time frame of recreation visitor use on the parkway above levels expected under alternative A. A likely secondary effect of increased use during the shoulder season would be an increase in the number of travelers affected by temporary parkway closures due to inclement weather.

Increases in use would occur over the entire length of the parkway under alternative C, although not necessarily uniformly. Increases in visitor use would help boost business revenues for concessioners, thereby enhancing the long-term economic viability of some concession operations. Under alternative C, the National Park Service would continue to offer concession services, primarily lodging and food, where economically viable. Where concessions are eliminated, consumer demand would either shift to nearby locations within or outside the parkway, or remain unserved. Reduced availability of concession services in the parkway under alternative C would benefit establishments near the parkway due to the displacement of demand from the parkway to nearby locations. As with alternative A, the private sector would have the opportunity to

provide services off-site that are no longer economically feasible for concessioners to provide.

**Visitor-Related Economic Impacts.**

Direct spending in the region by visitors would increase in all categories under alternative C as compared to alternative A. The largest increases would be outlays for fuel, snacks, dining, and lodging. Sales of arts and crafts, and merchandise sold by the Eastern National outlets at the Folk Art Center and Moses H. Cone Memorial Park and parkway Visitor Center would increase. Improvements at campgrounds, combined with year-round visitor services at certain sites could extend the camping season at lower-elevation campgrounds. The share of visitor expenditures captured in the larger communities along the parkway would be higher under alternative C than under alternative A. Campground receipts would likely be substantially higher for some of the campgrounds compared to alternative A.

Enhanced outdoor recreation opportunities and the connectivity to regional recreation resources would benefit local sporting clothing and equipment retailers, as well as hospitality establishments. Parkway concessioners may alter their merchandise selections in response to changes in market demands associated with the enhanced recreation opportunities. Local artisans and craftsmen would, as a group, realize increased demand for their products, thereby helping to sustain the region's heritage tourism economy.

Regional employment, income and business revenues of suppliers and vendors indirectly related to the parkway would increase under alternative C, as compared to alternative A. In many instances, the effects on employment would include additional work hours for business owners and employees, and longer extended duration of employment for seasonal employees.

Increased indirect and induced economic activity associated with alternative C would be

higher than under alternative A occurring primarily outside the parkway boundaries.

State and local governments would realize additional revenues, primarily from sales taxes associated with the increases in visitor use. Some public service providers would also experience increases in demand for services.

The direct and indirect economic contributions associated with visitor spending under alternative C would be long-term, mostly beneficial, minor to moderate, and larger than those under alternative A.

**Economic Impacts Related to NPS Operations.** Higher visitor use levels and year-round operations under alternative C would create additional demands on parkway staff, equipment, and facilities and the need for more volunteers to aid with interpretation, serve as campground hosts, and staff visitor contact stations at some locations. Higher visitor use, demand on aging parkway infrastructure, and increased development pressures adjacent to the parkway would collectively contribute to the need for higher staffing levels and budget than those under alternatives A. Although the actual levels of funding available would reflect congressionally approved funding for the National Park Service and the parkway's ability to compete for such funding, the annual operating budget is much larger under alternative C than alternative A. A larger operations budget would allow for additional employees to be hired, increases in direct spending and associated tax revenues above and beyond that proposed under alternative A. Over the life of the general management plan, implementation of alternative C would require much higher capital construction spending across the parkway than under alternative A.

Indirect and induced economic activity in the region, and the corresponding jobs associated with parkway operations would likely be higher under alternative C than under alternative A. Although long-term and beneficial, the differences would likely be

limited in scale as compared to existing conditions.

**Effects on Regional Heritage Tourism.** The Blue Ridge Parkway would participate more actively with local and regional partners in regional heritage tourism development and cultural preservation efforts under alternative C than under alternative A. The parkway would actively seek new partnerships, rather than responding to opportunities on a case-by-case basis, as presently occurs. The development of enhanced outdoor recreation activities may foster startup or expansions of recreation "outfitters" and guide services in some communities along the parkway and the year-round operation of some visitor services would support increased tourism promotion efforts of nearby attractions and hospitality establishments.

The indirect economic effects on regional economic development associated with regional heritage tourism under alternative C would be long-term, mostly beneficial, and minor.

**Indirect Effect on Communities, Local Governments, and State Agencies.**

Alternative C would not be expected to affect regional population growth, housing demand, or demands on other public facilities and services directly. Indirect effects on facilities and services, including local and regional highway transportation networks and emergency service providers would mirror changes in annual visitor use, which are projected to increase under this alternative. Management of the Blue Ridge Parkway under alternative C would continue to support local interest in traditional Appalachian lifestyles and attitudes through exhibits, arts and crafts demonstrations, musical events, and other activities.

The indirect effects on communities, local governments, and state agencies associated with parkway management under alternative C would be long-term, mostly beneficial, and negligible to minor.

At the parkway-wide scale, implementation of alternative C would result in the long-term alteration of some established visitor use patterns, support for increased parkway staffing and operating budgets, and stronger economic linkages between the parkway and nearby communities. A more active land protection program would affect land use patterns and trends near the parkway, and closer integration between the parkway and regional natural, recreational, and cultural resource organizations would promote stronger ties to local lifestyles and attitudes. Increases in visitor use and related economic effects, beyond those associated with alternative A, would be foreseeable along the extended length of the parkway, although not uniformly.

### **Parkway Segments and Recreation Areas**

Additional impacts at the segment and recreation area scale are considered below if not already included in the impacts analysis included above at the parkway-wide scale.

**Segment 1: Ridge.** Alternative C allows for the development of parking to facilitate access to nearby U.S. Forest Service recreational opportunities, as well as pursuing development of multiuse trails separate from the parkway and in/through the Humpback Rocks area. The Humpback Rock visitor contact station may be expanded, existing RV campsites would be upgraded and access improved, and some campsites at Peaks of Otter could be converted to rental cabins.

Over the long term, these changes would result in higher overall levels of day and overnight use in the Ridge segment than under alternative A, and support additional visitor spending and indirect jobs and income in the region. Developing coordinated recreation opportunities with the U.S. Forest Service would respond to increasing local demand tied to projected population gains in the region surrounding the Ridge segment through 2030. Adding cabins at Peaks of Otter would increase concession revenue and

concession fees to the parkway. Cooperative access arrangements with the U.S. Forest Service would increase use of the National Forest, and potentially increase demands on U.S. Forest Service staff and budget. Expanded visitor services and recreation opportunities at Humpback Rocks and Peaks of Otter would promote more integration with heritage tourism promotion efforts in nearby Waynesboro and Bedford.

Implementation of alternative C would require the highest capital construction spending relative to alternative A in order to develop a new northern gateway/entrance, parking, multiuse paths, and redesigning pullouts.

**Segment 2: Roanoke.** Proposed campground improvements would boost overnight use at the presently underused Roanoke Mountain campground, including increased shoulder season weekend use by area residents. Alternative C would support added day use in the Roanoke segment by developing a multiuse trail corridor for pedestrian and bicycle use.

Construction of a multiuse path parallel to the roadway would require higher spending than under alternative A. Additional capital construction spending beyond the normal cyclic maintenance associated with aging road and campground infrastructure would occur in order to make minor improvements to pullouts and complete improvements at the Roanoke Mountain campground. Indirect and induced economic stimulus along this segment would be higher than that under alternative A.

**Segment 3: Plateau.** The relocation of a visitor contact station from Rocky Knob to Mabry Mill under alternative C, combined with the management of historical settlements as a cultural landscape and development of additional interpretation, could result in some alteration of the established visitor use patterns in this segment. The National Park Service would encourage continued concession food service at Mabry Mill, but if doing so becomes economically nonviable, the

facility would be adaptively reused to facilitate relocation of the visitor contact station from Rocky Knob. In that event, establishments in Meadows of Dan would likely see increases in business volume. Closure of the visitor contact station at Rocky Knob would improve the parking availability for picnicking and related day use.

Under alternative C, the visitor contact station at the Blue Ridge Music Center and associated facilities would be one of the cornerstones of the National Park Service's more active participation in regional heritage tourism programs, further elevating the facility's stature in the region's heritage tourism arena. The changes at the Blue Ridge Music Center would function synergistically with the day use, Parks-as-Classrooms, and interpretive exhibits at nearby Cumberland Knob to create a prominent event/destination venue for the Blue Ridge Parkway. Hospitality establishments in Galax, Mount Airy, Meadows of Dan, and other local communities would realize minor increases in sales to parkway visitors. The combined draw would support increased employment, income, business sales, and tax revenues in the region.

Due to the proximity of private lands to the parkway and active development interest in the area, future land acquisition and protection efforts could be a high priority in this segment under alternative C, albeit with such acquisition proceeding on a "willing seller" basis.

**Segment 4: Highlands.** Important changes in the Highlands segment under alternative C would include accommodations for more day use at Cumberland Knob, the designation of multiuse (horse/hiking) trails in Doughton Park, the development of a paved multiuse trail in the Boone/Blowing Rock area, development of parking to accommodate horse trailers, and provision of equestrian backcountry campsites. Alternative C also provides for new trails and allowing mountain biking on a portion of the trail system in Julian Price Memorial Park, along with improvements to enhance the access and

visibility of the existing boat rental concession at Price Lake. The expanded trail system and permitting mountain biking would increase day use in that park, generating additional visitor expenditures that support businesses in nearby Boone/Blowing Rock.

The changes at Cumberland Knob would function in concert with those at the nearby Blue Ridge Music Center to increase day use and increase demands on NPS staff and volunteers. The multiuse trail and campground improvements at Doughton Park and Julian Price Memorial Park would increase recreation visitor use in the segment, including in the shoulder seasons, supporting concession operations and jobs, and increasing the level of indirect and induced economic contributions in the influence area.

The proposed paved, multiuse trail for pedestrian and bicycle use under alternative C would support added day use in the Highlands segment. Construction of a multiuse path parallel to the roadway would also require higher spending than under alternative A.

Under alternative C, the parkway would encourage continued concession services at Doughton Park, but if such services became economically unviable, the National Park Service would look to the private sector to provide services outside the parkway and would adaptively reuse or remove the structures being used for concessions.

**Segment 5: Black Mountain.** The visitor centers and contact stations in this segment would likely continue to operate on a seasonal schedule under alternative C. Upgraded campground sites and amenities at Linville Falls and Crabtree Falls would promote more recreation use and indirect and induced visitor use and economic activity in nearby locations, e.g., the Museum of North Carolina Minerals, Little Switzerland, and Mount Mitchell State Park.

Under alternative C, the concession craft and gift stores would be maintained at Crabtree Falls as long as they were economically viable.

If such services became economically unviable, visitors would look to private establishments outside the parkway to fill the gap in services.

**Segment 6: Asheville.** Alternative C would increase the availability of parking for recreational use in this segment, in part to accommodate rising trail and other day use by local residents. Indirect and induced economic stimulus along this segment would be comparable with that under alternative A.

Under alternative C, the parkway would potentially work cooperatively with the city of Asheville to provide staging areas for a shuttle system that could provide area residents and out of town visitors to Asheville access to popular parkway venues/attractions along the parkway and to the north and south to destinations such as Craggy Gardens and Mt. Pisgah. If developed, the system would likely operate during the summer season, when traffic volumes on the parkway are the highest. The shuttle would provide visitors an opportunity to visit without use of a personal vehicle. This would potentially open up opportunities for visitor use and spending by new groups of visitors.

A lengthened visitor season for certain facilities such as the Blue Ridge Visitor Center and Folk Art Center, as well as potentially more visitors from a shuttle service to these sites and others, would benefit Eastern National Association sales and the Folk Art Center from higher visitation and sales due to increased use during shoulder seasons.

The proposed paved, multiuse trail for pedestrian and bicycle use under alternative C would support added day use in the Asheville segment. Construction of a multiuse path parallel to the roadway would also require higher spending than under alternative A.

**Segment 7: Pisgah.** Alternative C includes enhanced visitor orientation services at the parkway's southern entrance. Because of the narrow right of way at the south entrance, the parkway would seek to partner with another entity to achieve this goal. The National Park

Service would not fund or own a visitor center facility. Alternative C would close and relocate some tent camping and upgrade RV sites with water and electricity hookups at the Mt. Pisgah recreation area. Campground access redesign would not be undertaken in this location in order to protect natural resources. These changes may affect the experience for some recreation visitors. The relocated tent sites, along with the upgraded comfort stations and addition of electrical and water utility service to the existing RV sites, would continue to support active use of the area.

Concession food, lodging, and gift store services at Mt. Pisgah, one of the stronger concession operations on the parkway, would likely remain economically viable. However, if such services became economically unviable, the National Park Service would look to the private sector to provide services outside the parkway and the parkway would adaptively reuse or remove the structures being used for concessions.

The long-term effects of these changes, when combined with the effects of the enhanced southern entrance/gateway in promoting recreation visitor use along the southernmost segments of the parkway, would result in beneficial but minor increases in visitor spending, indirect and induced economic activity, and jobs and income in the Maggie Valley, Cherokee, and elsewhere in the surrounding region.

Impacts arising from alternative C would be of the same type but somewhat higher in intensity and magnitude than those expected under alternative A. The impacts include slightly higher traffic on local roads and related impacts on public safety, higher spending that bolsters community and tourism-oriented businesses in the region, increased demands on public services, and additional tax revenues to fund public services and facilities.

Alternative C would, over the long term, subtly influence established economic and community development processes or social interaction patterns in the affected area, due

to the more regionally integrated actions associated with alternative C. The influences would not occur uniformly, either spatially or temporally, across the parkway, as implementation of alternative C is contingent upon many factors beyond the control of the National Park Service. Overall, the impacts from actions under alternative C would be minor to moderate in the short term and long term and generally beneficial.

### **Cumulative Effects**

Other past, present, and reasonably foreseeable actions affecting the social and economic conditions of the region would be the same as under alternative A. Future residential, commercial, and transportation developments near the parkway are generally consistent with projected economic and population growth for the region. Such growth would be accompanied by a broad spectrum of community development and fiscal and social interactions and processes; for example, temporary construction jobs, changes in retail shopping patterns and availability of consumer services, changing demands on public infrastructure and services, and influences affecting social interactions. Cumulative social and economic effects of these actions would also include short- and long-term increases in traffic on local roads and long-term changes in land use and additional potential loss of scenic views from the parkway. The development pressures would concurrently bolster habitat and viewshed protection efforts by the parkway, local communities, and other interests.

The cumulative developments would have short-term demands on local construction trades, short- and long-term demands on community services, and local changes in visitor use and commuting travel along the parkway. This would result in long-term minor to moderate indeterminate cumulative impacts on the social and economic environment. Combining the likely effects of implementing alternative C with the effects of past, present, and reasonably foreseeable future actions would result in minor to moderate short- and long-term indeterminate cumulative impacts on the social and economic environment. Alternative C would contribute a modest, generally beneficial amount to this impact.

### **Conclusion**

The economic and social effects of alternative C would include minor to moderate short- and long-term economic and social benefits. Long-term social consequences would include assisting in maintaining the region's population base and the parkway's role in supporting heritage tourism, in particular traditional music, arts, and culture. Overall, the cumulative social and economic effects associated with alternative C would be minor to moderate, short- and long-term, and indeterminate because they include effects that might be concurrently viewed as beneficial or adverse by various individuals, organizations, and stakeholder groups. Alternative C would contribute a modest, generally beneficial amount to this impact.

# CONSULTATION AND COORDINATION 5



*Floyd County Dry Goods Store*



*Pine Tree in Bloom*





## PUBLIC AND AGENCY INVOLVEMENT

The *Final General Management Plan / Environmental Impact Statement* for the Blue Ridge Parkway was based on input from the National Park Service, other agencies, American Indian tribes, and the public. Consultation and coordination among these groups were vitally important throughout the planning process. The public had three primary avenues for participation during the development of the plan: participation in public meetings, responses to newsletters, and comments submitted by way of the NPS planning website and regular mail.

### PUBLIC MEETINGS AND NEWSLETTERS

Public meetings and newsletters were used to keep the public informed and involved in the planning process for the Blue Ridge Parkway. A mailing list was compiled that consisted of members of governmental agencies, organizations, businesses, legislators, local governments, and interested citizens. Comments and suggestions offered by hundreds of participants provided NPS planners with important insights about what parkway visitors, neighboring landowners, county officials, science experts, and others expect from the general management plan.

The notice of intent to prepare an environmental impact statement was published in the *Federal Register* on March 13, 2002 (Volume 67, Number 49, Pages 11361–11362).

### Public Scoping Meetings

Four general public open houses were held in Staunton and Vinton (near Roanoke), Virginia, and in Asheville and Boone, North Carolina, during September 2002. The purpose of these meetings was to obtain early input on the public's vision for the parkway's future and any parkway issues, concerns, and ideas related to the general management plan.

More than 140 people attended this set of public meetings.

### Newsletters

The National Park Service issued five newsletters between 2002 and 2008 during preparation of the *Draft General Management Plan*. The total number of people who responded to the first four newsletters was 362. This figure includes people who mailed back comment forms enclosed in a newsletter, people who wrote letters to the parkway superintendent, and people who commented about the plan by electronic mail. The total number of responses to the fifth newsletter was 257, including electronic comments posted on the NPS Planning, Environment and Public Comment website (<http://parkplanning.nps.gov/blri>).

*Newsletter #1* described the process of general management planning and invited comments on the purposes of the Blue Ridge Parkway and the significance of its cultural and natural resources. Newsletter recipients were asked if the stated purpose reflected their sense of why the parkway was created and why it is important. Most of those responding indicated agreement with the parkway's purpose and significance statements. Some went further, saying that these statements especially mirror their personal feelings about the merits of the parkway.

*Newsletter #2* was a scoping newsletter and solicited input about issues facing the Blue Ridge Parkway that people wanted to see addressed by the new general management plan. People were asked what they value about the Blue Ridge Parkway, what concerns they have, and for other thoughts and ideas.

*Newsletter #3* presented a summary of the scoping comments received from the public at meetings and from written comments in response to *Newsletter #2*. Three issues of special note were discussed to clarify public

concerns. These three were parkway bicycling, horse and bicycle use at Moses H. Cone Memorial Park, and the planned expansion of Interstate 73 (I-73) across the parkway.

*Newsletter #4* introduced the concept of different prescriptions and their purpose in describing how to achieve a variety of parkway resource and visitor experience conditions. A preliminary set of management prescriptions was presented and members of the public were asked if they thought the draft prescriptions encompassed a full range of desired conditions for resources and visitors. They were asked to provide ideas on these topics and for any other comments or concerns.

*Newsletter #5* was an extensive document that compared three preliminary management alternatives and invited comments. To aid in discussion and analysis, the parkway was divided into seven segments identified between certain mileposts. Corresponding color-coded maps showed how the application of eight proposed management zones would differ among the three alternatives.

Members of the public predominantly valued the beauty of the scenic views from and along the parkway and the trails within parkway boundaries for recreation and education. Many people expressed the importance of experiencing the peaceful and leisurely character of parkway travel with its architectural, natural, and landscape design features.

## **RELEASE OF THE DRAFT GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT**

The *Blue Ridge Parkway Draft General Management Plan / Environmental Impact Statement* was released to the public on October 7, 2011. Four public meetings were held across Virginia and North Carolina to review and discuss the draft plan and receive public input

- November 2, 2011 in Asheville, NC
- November 3, 2011 in Blowing Rock, NC
- November 9, 2011 in Lovingson, VA
- November 10, 2011 in Roanoke, VA

The public comment period closed on December 16, 2011.

Approximately 3,360 pieces of correspondence about the draft plan were received from individuals, organizations, tribes, and agencies. The pieces of correspondence were submitted via email, hardcopy letters, comment cards provided at public meetings, or the National Park Service's internet-based Planning, Environment, and Public Comment system (PEPC). A total of 9,179 comments were derived from the correspondence received.

All comment letters received from agencies and organizations are posted to the PEPC internet site (<http://parkplanning.nps.gov/blri>) for public inspection.

A report titled "*Comments and Responses on the Blue Ridge Parkway Draft General Management Plan / Environmental Impact Statement*" is included at the end of this chapter. The report summarizes the substance of the comments received during this draft review period and provides a collection of National Park Service responses to the various categories of concerns that were raised.

## CONSULTATION WITH OTHER AGENCIES/OFFICIALS AND ORGANIZATIONS

### U.S. FISH AND WILDLIFE SERVICE, SECTION 7 CONSULTATION

The Endangered Species Act of 1973, as amended, requires in section 7 (a)(2) that each federal agency, in consultation with the Secretary of the Interior, ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. This section sets out the consultation process as implemented by regulation 50 CFR 402.

During the preparation of this document, the National Park Service coordinated informally with offices of the U.S. Fish and Wildlife Service in Annapolis, Maryland, and Asheville, North Carolina (see appendix B). The list of threatened and endangered species (see table 22 in chapter 3 of this document) was compiled using information received from the U.S. Fish and Wildlife Service.

On December 21, 2001, the then parkway superintendent (Daniel W. Brown) initiated informal consultation with the U.S. Fish and Wildlife Service on behalf of the planning team. This letter requested determination of federally listed threatened and endangered species, candidate species, species of special concern, and critical habitat that might be present within the boundaries of the parkway. After a subsequent delay in the planning process (from the plan being put on hold), on June 2, 2008, the parkway superintendent (Philip A. Francis Jr.) re-initiated this consultation by requesting U.S. Fish and Wildlife Service input on the updated list of listed species and critical habitat within the parkway boundaries. To remain up-to-date about listed and proposed threatened and endangered species, the National Park Service has consulted the U.S. Fish and Wildlife Service website and provided copies of the five newsletters to the U.S. Fish and Wildlife

Service over the duration of the planning process.

In accordance with the Endangered Species Act and relevant regulations at 50 CFR Part 402, the National Park Service determined that the preferred alternative would have “*no effect*” or “*may affect, not likely to adversely affect*” the various federally-listed species that occurs in the parkway (see table 22 in chapter 3).

The National Park Service has also committed to consult with U.S. Fish and Wildlife Service on future actions conducted under the framework described in this management plan to ensure that such actions are not likely to adversely affect threatened or endangered species.

In October 2011 the National Park Service provided copies of the Blue Ridge Parkway Draft General Management Plan / Environmental Impact Statement to the U.S. Fish and Wildlife Service for review. Via letters dated April 12, 2012, and May 12, 2012, the U.S. Fish and Wildlife Service Asheville Field Office and Virginia Field Office, respectively, concurred with the section 7 assessment determinations made by the National Park Service on the potential effects to listed species from the general management plan.

### FEDERAL AND STATE AGENCIES BASED IN NORTH CAROLINA AND IN VIRGINIA

A meeting with representatives of federal and state agencies based in North Carolina was held at the headquarters of the Blue Ridge Parkway, Asheville, North Carolina, during January 2002. A similar meeting with such representatives in Virginia was held in Vinton, Virginia, during April 2002. Members of the planning team outlined the general

management plan scope and time frame and agency participants offered information about their interests and in their desired level of involvement with the plan. Information was sought about each agency's planning cycles and availability of data that could be useful for the management plan. Topics discussed included loss of wildlife habitats such as wetlands, invasive exotic species, declining water and air quality, encroaching urbanization by way of economic and residential development, lack of funding for cultural and natural resource preservation and for parkway operations, increasing recreational demands, and problems of vista management.

## **WORKSHOP OF RESOURCE EXPERTS**

### **Cultural Resources**

The planning team invited a number of individuals recognized as experts on the history and cultural resources of the Blue Ridge Parkway and surrounding region to a one-day workshop in Jonesville, North Carolina, on April 16, 2002. The purpose of this workshop was to obtain the perspective of experts outside the National Park Service concerning the significance of parkway cultural resources from a regional and national context and visions for future desirable conditions to manage parkway cultural resources. Nine of the 17 invited experts attended. Members of the NPS planning team and a consulting firm also attended.

Most of the discussion about cultural resource significance centered on the parkway itself as a major historic resource important in its own right. Its conception, design, and construction, as well as for the politics associated with its location and construction—all contributed to its national significance. The parkway's long association with the region through which it passes and its influence on the public's perception of an "idealized pioneer culture," make it an important avenue for interpreting regional culture and helping adjacent communities tell

the story of their heritage. Thus, parkway cultural resources contribute to its national significance.

It was recognized that to improve cultural resource management the National Park Service needs to complete comprehensive inventories of prehistoric, historic, and ethnographic sites for archeological, ethnographic, and historic resources and for cultural landscapes. It was further recognized that the conditions for managing and curating the parkway's archives need improvement.

Discussions during the 2002 meeting led to the parkway's preparation of an updated Historic Resource Survey that includes a national historic landmark nomination for the Blue Ridge Parkway Historic District. This report is currently underway. To improve cultural resource inventory and management at the parkway, the preparation of cultural landscape reports for several cultural landscapes identified within the parkway are also underway. This general management plan will incorporate these reports' conclusions and recommendations when they become available.

### **Transportation**

The Blue Ridge Parkway planning team invited a number of individuals recognized as experts on Blue Ridge regional transportation activities to a one-day workshop on April 17, 2002, in Jonesville, North Carolina. Thirteen representatives from the Virginia and North Carolina transportation departments and the Federal Highway Administration attended. Also attending were two representatives of the National Parks Conservation Association and planning team members from the National Park Service and EDAW consulting firm. The purpose of this workshop was to provide meeting attendees an overview of the general management plan process, the transportation implementation plan that would follow, and how these efforts may affect state road improvement programs.

Workshop participants were asked to identify pertinent issues relative to the transportation organizations they represented. As the National Park Service continues with its proposed transportation planning process, the disposition and improvements made to primary and secondary roads will be of particular interest to these regional transportation experts. Examples of specific topics discussed are as follows:

- ways to balance state and local needs versus NPS needs now and in the future, including the extent to which the viewshed should be considered in designing road changes/improvements and safety versus “scenery” criteria for road crossings of the parkway
- sharing road specification guidelines, including future maintenance and right-of-way issues, for mutual understanding among the National Park Service and the transportation departments of Virginia and North Carolina
- desired programmatic approval for certain types of basic road improvements
- identifying funding sources for road improvements and bridge replacements

The extent to which the parkway is a multiple use versus a leisurely use facility, and thus, an integral part of the primary transportation systems of Virginia and North Carolina was emphasized for discussion.

## Natural Resources

Of the 13 experts invited, 4 attended the natural resource workshop on April 18, 2002, in Jonesville, North Carolina. Also attending were several resource specialists from the NPS Blue Ridge Parkway’s Natural Resource Office, planning team members from the National Park Service, and a consulting firm. The purpose of this workshop was to obtain the perspective of natural resource experts primarily from outside the National Park Service about the significance of the parkway and their vision for the future condition and management of parkway natural resources.

Several comments about resource significance focused on the importance of the parkway as an “ecological rope” or corridor that links major ecosystems of the southern Appalachians. This corridor enables the movement of wildlife such as bear and bobcat and migratory birds that follow the ridgelines. Wildlife movement is often adversely affected by the fragmentation of this corridor by roads and development. The parkway sets an example in the region for resource protection and preservation and this continuous corridor can positively influence adjacent resource protection/preservation decisions by others, such as the Nature Conservancy, because they can “link” their properties to this corridor.

Recommended was the use of natural tools such as fire and beavers to maintain ecosystems, along with a more proactive approach in working with adjacent jurisdictions and other entities, such as land conservancies and trusts, to improve adjacent land use, and thus, better protect/preserve parkway lands. It would be helpful to view the parkway more as a “natural area” rather than a “theme park,” with the management goal of all native natural resources being stable or thriving, with exotic species under control, and with extirpated species such as the chestnut reintroduced. Through more communication and cooperation among the parkway’s divisions, resource management and interpretation could improve to make natural resource interpretation much more accessible to publics and constituencies of all ages.

## Regional and Local Governments

The National Park Service met with North Carolina and Virginia county planners in 2001 and 2002 for early scoping input.

In September and October 2001, two meetings were held in each state, in Little Switzerland and Asheville, North Carolina, and Roanoke and Staunton, Virginia. These meetings were coordinated in advance with the North Carolina Councils of Governments and the Virginia Planning District Commissions.

Forty-eight planners attended from 75% of the 44 municipal, state, and adjacent county jurisdictions. The planners were asked to identify benefits and issues of the parkway, and then discuss other groups to contact for scoping input.

**Values and Benefits.** Some of the primary parkway values and benefits that these planners identified included, in order of frequency of comments: (1) economics and tourism, including attractiveness to businesses and industry, greater publicity, and increased revenues and property values; (2) recreational variety and easy accessibility that attracts residents and tourists; (3) scenic views both of and from the parkway; (4) land preservation of natural landscapes, open space, and the Blue Ridge crest; and (5) protection of wildlife corridors and water resources.

**Issues and Concerns.** By far the most prevalent concern discussed by planners was the increasing pressure for residential development and cell towers and impacts on the parkway's scenery and ultimately its economic value. Many were concerned about the lack of funding for acquisition of land and easements. They were also concerned that development would turn the parkway into a transportation corridor rather than a recreational venue. Other frequent comments related to pedestrians, motorists, and bicycles all having to use the same roadway; the overuse of the parkway by commuters; the need for better facility upkeep; resource damage from visitor uses; winter road closings disrupting communities; and the desire to see the parkway provide visitors information about adjacent communities and attractions.

In 2002, another set of four meetings were held for the purpose of keeping local governments informed about the planning effort and to hear from local planners about local population and land use trends, as well as major projects planned for their jurisdictions.

**Land Use Trends.** Meetings were held in Boone and Asheville, North Carolina, and Staunton and Roanoke, Virginia. Meeting

attendees represented a cross section of the 44 jurisdictions. Some of the land use trends that attendees discussed included the fact that even with the slowing economy, development of second or retirement residences continued to be strong; there has been closure of plants and unemployment is high; the alarming rate of agricultural conversion and lack of concern or support for "slow growth" in communities; the rise in niche crops such as vineyards and Christmas trees; planned road improvements in both states that would impact traffic and visual quality on the parkway; and many planners discussed the benefits of the parkway to residents' quality of life—especially for counties not near major parkway entrances.

### Parkway Partner Organizations

Sessions with parkway partner organizations were held at parkway headquarters, Asheville, North Carolina, during January 2002. There were eight key parkway partner groups involved—Blue Ridge Parkway Association, FRIENDS of the Blue Ridge Parkway, Blue Ridge Parkway Foundation, Southern Highlands Craft Guild, Eastern National Monuments and Parks Association, Conservation Trust for North Carolina, Explore Park, and the National Council for the Traditional Arts. (Representatives of the last two organizations were unable to attend the meeting.) Overall, the partners expressed enthusiasm about the plan and said they want to be actively involved. Concerning public meetings, the group advised parkway and NPS staff to take advantage of the opportunity to help communities along the parkway better understand the parkway's mission and values and those of the National Park Service itself. Partners encouraged the National Park Service to develop ways of recognizing and communicating the character and special features of communities near the parkway. Groups producing periodic newsletters offered to include general management plan updates in their publications. Details were discussed about developing the mailing list, about the electronic availability of geographic base data such as topography and city and county roads, contracting for transportation

and visitor data and analysis, and determining each partner's desired level of involvement with the general management plan. Questions to ask at subsequent workshops were also discussed; for example, "What are desired future conditions for parkway resources within national and regional contexts?"

## **SECTION 106 CONSULTATION**

Federal agencies that have direct or indirect jurisdiction over historic properties are required by section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470, et seq.) to take into account the effect of any undertaking on properties listed in or eligible for listing in the National Register of Historic Places. To meet these requirements, on January 4, 2002, with follow-up on February 6, 2003, the National Park Service sent letters to the Virginia and North Carolina state historic preservation officers (Ms. Kathleen Kilpatrick and Dr. Jeffrey Crow, respectively) and the Advisory Council (Mr. Don Klima, director of planning and review) inviting and confirming opportunities to participate in the planning process. Letters were sent again to the Virginia and North Carolina state historic preservation officers and the Advisory Council on November 2010 (see appendix B). Throughout the planning process, each office was informed of opportunities to attend agency and public meetings and to comment on the newsletters. The National Park Service commits to complete the section 106 review for each undertaking that may stem from this general management plan in accordance with the 2008 Programmatic Agreement among the National Park Service, the Advisory Council, and the National Conference of State Historic Preservation Officers for Compliance with section 106 of the National Historic Preservation Act. All undertakings that do not conform to the stipulations for streamlined review as described in section III of the National Historic Preservation Act would be subject to review in accordance with 36 CFR Part 800.

A copy of the *Draft General Management Plan / Environmental Impact Statement* was sent to the state historic preservation offices and the advisory council for their review and comment. The Blue Ridge Parkway also consulted with the two state historic preservation officers about the Draft Blue Ridge Parkway Historic Resource Study and the draft National Register of Historic Places nomination form of the parkway as a national historic landmark. This general management plan applies the conclusions and recommendations of these reports.

## **CONSULTATION WITH AMERICAN INDIAN TRIBES**

Traditionally associated with the area now containing the parkway, the following eight federally recognized American Indian tribes were invited, initially by letter dated January 16, 2002 and followed by telephone calls, to meet for government-to-government tribal consultations about the general management plan

- Absentee Shawnee Tribe of Oklahoma, Shawnee, Oklahoma
- Catawba Indian Nation, Rock Hill, South Carolina
- Cherokee Nation, Tahlequah, Oklahoma
- Eastern Band of Cherokee Indians, Cherokee, North Carolina
- Eastern Shawnee Tribe of Oklahoma, Seneca, Missouri
- Shawnee Tribe, Miami, Oklahoma
- Tuscarora Nation, Lewiston, New York
- United Keetoowah Band of Cherokee Indians, Tahlequah, Oklahoma

During 2002 and 2003, parkway staff met with representatives of the Absentee Shawnee Tribe, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe, Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. The Tuscarora Nation did not respond and the Catawba Indian Nation responded in writing.

The consulting tribes advised the National Park Service to continue to notify relevant tribes of inadvertent discoveries associated with ground-disturbing parkway projects. It was noted that such projects would presumably be authorized by general management plan guidance. The inadvertent discoveries of interest would be those involving prehistoric or historic American Indian artifacts, other evidence of Indian village habitation or occupation, and/or American Indian human remains, especially the latter. The tribes definitely want to be notified about the discovery of American

Indian human remains to possibly instruct the National Park Service on an NPS-led reburial in which the remains would return to the earth as close by as possible to where they were found. Under the guidance of the Native American Graves Protection and Repatriation Act, the National Park Service and consulting American Indian tribes would develop a plan for dealing with the inadvertent discovery of human remains. Other than the reference to overall guidance for parkway projects, no issues came up during Native American consultations relating to the general management plan.



## **AGENCIES, ORGANIZATIONS, AND INDIVIDUALS RECEIVING A COPY OF THIS DOCUMENT**

### **FEDERAL AGENCIES**

Advisory Council on Historic Preservation  
Federal Highway Administration  
National Endowment for the Arts  
U.S. Army Corps of Engineers, North Carolina  
U.S. Department of Agriculture  
Natural Resources Conservation Service  
North Carolina Soil and Water Conservation Districts, Mountain Valleys Resource, Conservation, and Development Council  
U.S. Forest Service  
Cradle of Forestry in America National Forest Historic Site, North Carolina  
George Washington and Thomas Jefferson National Forests, Virginia  
Glenwood Ranger District of Jefferson National Forest  
Grandfather Ranger District, Pisgah National Forest, North Carolina  
National Forests in North Carolina, including Pisgah and Nantahala  
Southern Research Station, North Carolina  
U.S. Department of Commerce  
National Climatic Data Center  
U.S. Department of Defense  
U.S. Air Force Combat Climatology Center, 14th Weather Squadron, North Carolina  
U.S. Department of the Interior  
Bureau of Indian Affairs  
Bureau of Reclamation  
National Biological Informatics Office, Tennessee  
National Park Service  
Andrew Johnson National Historic Site  
Appalachian National Scenic Trail  
Booker T. Washington National Monument  
Carl Sandburg Home National Historic Site  
Cowpens National Battlefield  
Great Smoky Mountains National Park  
Guilford Courthouse National Military Park  
Shenandoah National Park  
Southeast Archeological Center  
Southeast Regional Office  
Water Resources Division  
National Park Service Affiliated Areas

Path of Progress National Heritage Tour  
Route also known as Southwestern  
Pennsylvania Industrial Heritage Route  
U. S. Fish and Wildlife Service  
U. S. Geological Survey  
U. S. Department of Justice  
U.S. Attorney's Office, Virginia  
U. S. Regional Solicitors' Offices, Georgia and Tennessee  
U. S. Treasury  
Internal Revenue Service

### **U. S. SENATORS AND REPRESENTATIVES**

#### **North Carolina**

Honorable Richard Burr, Senator  
Honorable Kay Hagan, Senator  
Honorable Virginia Foxx, House of Representatives  
Honorable Patrick T. McHenry, House of Representatives  
Honorable Mark Meadows, House of Representatives  
Honorable Howard Coble, House of Representatives

#### **Virginia**

Honorable Mark Warner, Senator  
Honorable Timothy Kaine, Senator  
Honorable Morgan Griffith, House of Representatives  
Honorable Robert Hurt, House of Representatives  
Honorable Bob Goodlatte, House of Representatives

### **STATE AGENCIES**

North Carolina Attorney General's Office

North Carolina Department of Agriculture and Consumer Services, Plant Conservation Program  
North Carolina Department of Commerce, Division of Tourism, Film, and Sports Development  
North Carolina Department of Cultural Resources  
North Carolina State Historic Preservation Officer  
North Carolina Department of Environment and Natural Resources  
North Carolina Division of Water Quality  
North Carolina Natural Heritage Program  
North Carolina Natural Heritage Trust Fund  
North Carolina Regional Trails  
North Carolina Wildlife Resources Commission and District  
North Carolina Department of Transportation  
Division of Highways  
Scenic Byways Coordinator's Office  
North Carolina Division of Parks and Recreation  
Mount Mitchell State Park  
Rendezvous Mountain Educational State Forest  
North Carolina Division of State History Museums  
North Carolina Museum of History  
Mountain Gateway Museum and Heritage Center  
North Carolina Governor's Office  
North Carolina State Clearinghouse, Environmental Policy Act Coordinator's Office  
North Carolina State Historic Sites  
Reed Gold Mine State Historic Site / National Historic Landmark  
North Carolina Western Office of the Governor  
South Carolina Department of Parks, Recreation, and Tourism  
Virginia Department of Agriculture and Consumer Services  
Virginia Department of Commerce and Resources  
Virginia Department of Conservation and Recreation  
Environmental Programs  
Natural Heritage Program

Virginia Department of Economic Development  
Virginia Department of Forestry  
Virginia Department of Game and Inland Fisheries  
Wildlife Diversity Division  
Virginia Department of Transportation  
Environmental Manager's Office  
Scenic Byway Coordinator's Office  
Virginia Department of Historic Resources  
Roanoke Regional Preservation Office  
Virginia State Historic Preservation Officer  
Virginia Governor's Office  
Virginia Recreational Facilities Authority  
Virginia Tourism Corporation, Official Tourism Website of the Commonwealth of Virginia

## **STATE OFFICIALS**

### **North Carolina**

Honorable Pat McCrory, Governor  
State Senator Jim Davis  
State Senator Ralph Hise  
State Senator Tom Apodaca  
State Senator Martin Nesbitt  
State Senator Warren Daniel  
State Senator Daniel Soucek  
State Senator Shirley Randleman  
State Representative Joe Sam Queen  
State Representative Michele D. Presnell  
State Representative Chuck McGrady  
State Representative Tim D. Moffitt  
State Representative Nathan Ramsey  
State Representative Susan C. Fisher  
State Representative Chris Whitmire  
State Representative Mitch Gillespe  
State Representative Hugh Blackwell  
State Representative Edgar V. Starnes  
State Representative Johnathan C. Jordan  
State Representative Jeffrey Elmore  
State Representative Sarah Stevens

### **Virginia**

Honorable Robert F. McDonnell, Governor  
State Senator Charles W. Carrico, Sr.  
State Senator Charles K. Smith  
State Senator William M. Stanley, Jr.

State Senator John S. Edwards  
State Senator Stephen D. Newman  
State Senator Thomas A. Garrett, Jr.  
State Senator Emmett W. Hangar, Jr.  
State Senator R. Creigh Deeds  
State Representative Israel D. O'Quinn  
State Representative Anne B. Crockett-Stark  
State Representative Nick Rush  
State Representative Gregory D. Habeeb  
State Representative Charles D. Poindexter  
State Representative Onzlee Ware  
State Representative Christopher T. Head  
State Representative Lacey E. Putney  
State Representative T. Scott Garrett  
State Representative Benjamin L. Kline  
State Representative Richard P. Bell

**AMERICAN INDIAN TRIBES  
TRADITIONALLY ASSOCIATED WITH  
THE PARKWAY**

Absentee-Shawnee Tribe of Indians of  
Oklahoma, Shawnee, Oklahoma  
Catawba Indian Nation, Rock Hill, South  
Carolina  
Cherokee Nation, Tahlequah, Oklahoma  
Eastern Band of Cherokee Indians, Cherokee,  
North Carolina  
Eastern Shawnee Tribe of Oklahoma, Seneca,  
Missouri  
Shawnee Tribe, Miami, Oklahoma  
Tuscarora Nation, Lewiston, New York  
United Keetoowah Band of Cherokee Indians  
in Oklahoma, Tahlequah, Oklahoma

**LOCAL AND REGIONAL GOVERNMENT  
AGENCIES**

Albemarle County, Virginia, Office of  
Community Development  
Alleghany County, North Carolina, Offices of  
County Board, Manager, and Planning  
Amherst County, Virginia, Offices of County  
Board, Administrator, and Planning  
Arlington County, Virginia, Planning Office  
Ashe County, North Carolina, Offices of  
County Board and Planning  
Asheville, North Carolina, Offices of Mayor,  
City Council, Community Development,

Convention and Visitors' Bureau, Parks and  
Recreation, Planning, and Transit  
Augusta County, Virginia, Offices of County  
Board, Administrator, and Planning  
Avery County, North Carolina, Offices of  
County Board and Manager  
Bedford County, Virginia, Office of County  
Board  
Bedford, Virginia, Offices of City  
Administrator/Manager and Commercial  
Development  
Blowing Rock, North Carolina, Office of  
Planning and Inspections  
Boone, North Carolina, Offices of Mayor,  
Town Council, and Development  
Botetourt County, Virginia, Offices of  
Administrator and Planning  
Buena Vista, Virginia, Offices of City Manager  
and Community Development  
Buncombe County, North Carolina, Offices of  
County Board, Manager, and Schools  
Burke County, North Carolina, Offices of  
County Board, Manager, and Planning  
Caldwell County, North Carolina, Offices of  
County Board and Planning  
Carroll County, Virginia, Offices of County  
Board and Administrator  
Charlottesville, Virginia, Offices of City  
Council and Neighborhood Services  
Chesterfield County, Virginia, Office of  
Planning  
Floyd County, Virginia, Offices of County  
Board and Administrator  
Franklin County, Virginia, Offices of County  
Board, Administrator, and Planning  
Galax, Virginia, Office of Tourism  
Glasgow, Virginia, Office of Town Manager  
Grayson County, Virginia, Offices of County  
Board and Administrator  
Haywood County, North Carolina, Offices of  
County Board and Commercial Development  
Council  
Henderson County, North Carolina, Offices  
of County Board, Planning, and  
Travel/Tourism  
Hendersonville, North Carolina, Office of  
Planning  
Hickory, North Carolina, Office of Planning  
Hillsville, Virginia, Office of Building  
Inspection  
Jackson County, North Carolina, Offices of  
County Board, Manager, and Planning

Lexington, Virginia, Office of Planning  
 Lynchburg, Virginia, Office of Planning  
 Madison County, North Carolina, Offices of Administrator and Planning  
 Martinsville, Virginia, Office of Tourism  
 McDowell County, North Carolina, Offices of County Board and Administrator/Manager  
 Mitchell County, North Carolina, Offices of County Board and Manager  
 Morganton, North Carolina, Office of City Council  
 Nelson County, Virginia, Offices of County Board, Administrator, Planning, and Tourism  
 North Carolina Region D Council of County and Municipal Governments  
 Patrick County, Virginia, Offices of County Board and Administrator  
 Roanoke County, Virginia, Offices of County Board, Administrator, Community Relations, Economic Development, Planning, Public Information,  
 Roanoke Valley-Alleghany Regional Planning District Commission of Virginia  
 Roanoke, Virginia, Office of Planning  
 Rockbridge County, Virginia, Offices of County Board, Administrator, and Planning,  
 Rockbridge Partnership of the Cities of Lexington and Buena Vista and Rockbridge County, Virginia  
 Salem, Virginia, Office of City Director  
 Statesville, North Carolina, Office of City Director  
 Staunton, Virginia, Offices of Planning and Economic Development  
 Surry County, North Carolina, Offices of Administrator and Planning  
 Swain County, North Carolina, Offices of County Board, Administrator/Manager, and Planning  
 Transylvania County, North Carolina, Offices of County Board, Manager, and Planning  
 Vinton, Virginia, Office of Planning  
 Virginia 2000 Regional Commission  
 Watauga County, North Carolina, Offices of County Board, Manager, and Planning  
 Waynesboro, Virginia, Offices of City Director, Planning, Tourism, and Economic Development  
 Waynesville, North Carolina, Offices of Historic Preservation and Planning  
 Wilkes County, North Carolina, Offices of Manager and Planning

Yancey County, North Carolina, Offices of Administrator/Manager and Planning

## **ORGANIZATIONS AND BUSINESSES**

Abbott and Partners, Architects, Virginia  
 Abingdon Convention and Visitors Bureau, Virginia  
 Access Fund, Colorado  
 Advantage West Economic Development Group, North Carolina  
 Alleghany Chamber of Commerce and Visitors Center, North Carolina  
 Alleghany Highlands Chamber of Commerce, Virginia  
 Alicia Patterson Foundation, Virginia  
 Alpine Inn, North Carolina  
 American Automobile Association, Carolina  
 Motor Club, North Carolina  
 Amherst County Chamber of Commerce, Virginia  
 Appalachian Consortium, Board of Directors, Tennessee and North Carolina  
 Appalachian State University Chancellor's, Vice Chancellor's, and Academic Affairs Offices; Biology and Communications, and Technology Departments; and Hospitality Management Program; North Carolina  
 Appalachian Trail Conservancy (formerly Appalachian Trail Conference), West Virginia  
 Ashe County Chamber of Commerce, North Carolina  
 Asheville Chamber of Commerce and Visitors' Bureau, North Carolina  
 Avery-Banner Elk County Chamber of Commerce, North Carolina  
 Beattie Foundation, North Carolina  
 Bedford Chamber of Commerce, Virginia  
 Biltmore Estate, The Biltmore Company, North Carolina  
 Black Mountain-Swannanoa Chamber of Commerce, North Carolina  
 Blacksburg Regional Chamber of Commerce, Virginia  
 Blowing Rock Chamber of Commerce, North Carolina  
 Blue Ridge Mountain Host, North Carolina  
 Blue Ridge National Heritage Area Parkway Destination Center, North Carolina  
 Blue Ridge Parkway Association Board, North Carolina

Blue Ridge Parkway Foundation, North Carolina  
Boone Area Chamber of Commerce, North Carolina  
Boone Climbers Coalition, North Carolina  
Boone High Country Regional Transportation Planning Organization, North Carolina  
Botetourt County Board of Supervisors  
Botetourt County Chamber of Commerce, Virginia  
Brevard College, North Carolina  
Brevard/Transylvania Chamber of Commerce, North Carolina  
Caldwell County Chamber of Commerce, North Carolina  
Capital Area Visitor Services Center, North Carolina  
Carolina Climber's Coalition, North Carolina  
Carolina Mountain Club, North Carolina  
Carroll County Chamber of Commerce, Virginia  
Cashiers Area Chamber of Commerce, North Carolina  
Center on Rural Development, Virginia  
Cherokee County Chamber of Commerce, Executive Director's Office, North Carolina  
Cherokee Historical Association, North Carolina  
Clemson University, Department of Forest Resources, South Carolina  
Community Foundation of Western North Carolina  
Conservation Trust for North Carolina  
Cradle of Forestry in America Interpretive Association, North Carolina  
East Tennessee State University, Departments of English, Family Medicine, and Information Research Technology, and Center for Appalachian Studies  
Eastern National Parks Association, Pennsylvania  
Environmental Federation of North Carolina  
Emory and Henry College, Geography Department, Virginia  
Explore Park, Virginia  
Ferrum College's Blue Ridge Institute and Museum, Virginia  
Forever Resorts, Arizona, concessioner on the Blue Ridge Parkway  
FRIENDS of the Blue Ridge Parkway, Board of Directors and Executive Director, North Carolina and Virginia  
Foundation for The Carolinas, North Carolina  
Galax Chamber of Commerce, Virginia  
Global Warming Campaign Blue Water Network, California  
Grandfather Mountain, Incorporated, North Carolina  
Greater Augusta Regional Chamber of Commerce, Director's Office, Virginia  
Greater Haywood County Chamber of Commerce, Executive Director's Office, North Carolina  
Green River Preserve, North Carolina  
Grove Park Inn and Country Club, North Carolina  
Handmade in America, North Carolina  
Harley Owners Group, Pennsylvania  
Hearthside Handmades, North Carolina  
Highlands Gateway Visitor Center, Virginia  
Hill Studio, Interstate 40 (I-40) Welcome Center, Historic National Road, Pennsylvania  
Historic Orchard at Altapass, North Carolina  
Interstate 26 (I-26) Welcome Center, North Carolina  
Interstate 40 (I-40) Welcome Center, North Carolina  
Interstate 64 (I-64) Welcome Center, Virginia  
Interstate 77 (I-77) Welcome Center, Virginia  
Interstate 81 (I-81) Welcome Center, Virginia  
Interstate 85 (I-85) Welcome Center, North Carolina  
Iowa State University, Department of Landscape Architecture  
Jackson County Chamber of Commerce, North Carolina  
Janirve Foundation, Chairman's Office, North Carolina  
Kentucky Society of Natural History  
Land of Sky Regional Council, Environmental Programs Director's and Regional Planner's Offices, North Carolina  
Lexington Visitors Bureau, Virginia  
Luray Caverns, Virginia  
Maggie Valley Chamber of Commerce, North Carolina  
Mars Hill College, President's and Dean's Offices, North Carolina  
McDowell County Chamber of Commerce, North Carolina  
North Carolina County Chamber of Commerce  
Mitchell County Chamber of Commerce, North Carolina

Mount Airy Chamber of Commerce, North Carolina  
 Mountain Adventures, North Carolina  
 Mountain Magic Cycling, North Carolina  
 Mountain Resources Center, North Carolina  
 Musselwhite and Associates, Virginia  
 National Audobon Society, North Carolina  
 National Council for the Traditional Arts, Maryland  
 National Park Concessions, Incorporated, Kentucky  
 National Parks Conservation Association, North Carolina and Tennessee  
 National Park Service Employees and Alumni Association, Pennsylvania  
 National Trust for Historic Preservation, Washington, D.C.  
 Nature Conservancy, North Carolina  
 New Leaf Fund, North Carolina  
 New River Community Partners, North Carolina  
 North Carolina Arboretum of the University of North Carolina  
 North Carolina Center for Nonprofits  
 North Carolina High Country Host, Executive Director's Office  
 North Carolina Museum of Natural Science  
 North Carolina National Park, Parkway, and Forests Development Council  
 North Carolina State University, Department of Parks, Recreation and Tourism Management; School of Design; and College of Forest Resources  
 North Carolina Welcome Centers  
 North Carolina Zoological Park  
 Northwest Trading Post, Incorporated, North Carolina  
 Northwestern University, Environmental Policy Program, Illinois  
 Oldham Historic Properties, Virginia  
 Ohio and Erie Canalway Coalition, Ohio  
 Park Foundation, North Carolina  
 Peaks of Otter Lodge / Peaks of Otter Company, Virginia  
 Pisgah Inn, North Carolina  
 Preservation North Carolina (Historic Preservation Foundation of North Carolina, Incorporated)  
 Radford University, Appalachian Regional Studies Center, Director's Office, Virginia  
 River Link, Executive Director's Office, North Carolina  
 Roanoke Regional Chamber of Commerce, Virginia  
 Roanoke Valley Chamber of Commerce, Virginia  
 Roanoke Valley Convention and Visitors Bureau, Virginia  
 Rock Dimensions, North Carolina  
 Rockfish Gap Tourist Information Center, Virginia  
 Rocky Mount Chamber of Commerce, Virginia  
 Salem Chamber of Commerce, Virginia  
 Scenic America, Incorporated, Washington, D.C.  
 Scenic Virginia, Incorporated  
 Shenandoah Valley Travel Association, Virginia  
 Skyland Camp, North Carolina  
 Sierra Club, North Carolina, Tennessee, and Virginia  
 Smoky Mountain Host of North Carolina  
 Southern Appalachian Forest Coalition, North Carolina  
 Southern Appalachian Highlands Conservancy, Executive Director's Office, North Carolina  
 Southern Appalachian Man and the Biosphere Program, Tennessee  
 Southern Highland Craft Guild, North Carolina  
 Spruce Pine Chamber of Commerce, North Carolina  
 Staunton Office of Tourism, Virginia  
 Stuart Chamber of Commerce, Virginia  
 Talisman Summer Programs, North Carolina  
 The Climbing Place, North Carolina  
 The Institute at Biltmore, North Carolina  
 Tidewater Hotels and Resorts, Virginia  
 Travelhost Travel Magazine, North Carolina  
 Trust for Public Land, North Carolina  
 University of North Carolina at Asheville, Chancellor's Office, Community Leadership Programs, and Department of Biology  
 University of Virginia, News Director's Office  
 Valley [Shenandoah Valley] Conservation Council, Virginia  
 Venture Out, North Carolina  
 Veterans Administration Medical Center, Executive Director's Office, North Carolina  
 Vinton Chamber of Commerce, Virginia  
 Virginia Outdoors Foundation

*Agencies, Organizations, and Individuals Receiving a Copy of this Document*

Virginia Polytechnic Institute and State University; Art and Design Learning Center, College of Forestry and Wildlife, Department of Fisheries and Wildlife, Landscape Architecture Program, and Pamplin College of Business  
Virginia's Southwestern Blue Ridge Highlands, Incorporated  
Virginia Tourism Corporation  
Wake Forest University, Department of Biology, North Carolina  
Warren Wilson College, North Carolina  
Western Carolina University, Chancellor's and Mountain Heritage Center Director's Offices, North Carolina  
Western North Carolina Alliance

Western North Carolina Associated Communities  
Western North Carolina Chamber of Commerce  
Western North Carolina Development Association  
Western North Carolina Film Commission  
Western North Carolina Tomorrow, Executive Director's Office  
Western Virginia Land Trust  
Wilkes County Chamber of Commerce, North Carolina  
Wytheville-Wythe-Bland Chamber of Commerce, Virginia  
Yancey County Chamber of Commerce, North Carolina

**INDIVIDUALS**

The list of individuals receiving a copy of the plan is available from parkway headquarters.



# COMMENTS AND RESPONSES ON THE BLUE RIDGE PARKWAY DRAFT GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT

This section summarizes the comments received following the release of the Blue Ridge Parkway *Draft General Management Plan / Environmental Impact Statement* on October 7, 2011. All written comments were considered during the preparation of the final general management plan and environmental impact statement in accordance with the requirements of Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (40 CFR 1503). The comments allow the planning team, NPS decision makers, and other interested parties to review and assess the views of other agencies, organizations, and individuals related to the preferred alternative, the other alternatives, and potential impacts. It is important to stress that the selection of the preferred alternative and revisions to the alternative are not based on how many people supported a particular alternative.

All comments received during the public review and comment period have been duly considered and will remain in the project administrative record. The administrative record (or project file) documents the NPS decision-making process and records the basis and rationale for making the decision.

## METHODOLOGY

The Blue Ridge Parkway received approximately 3,360 pieces of correspondence during the public review and comment period from October 7, 2011, through December 16, 2011. Correspondence was received by one of the following methods: email, hard copy letter via mail, comment sheet submitted at the public meetings, or entered directly into the PEPC system. Letters received by email or through the postal mail, as well as the comments received from the public meetings, were entered into the PEPC

system for analysis. Each of these letters or submissions is referred to as correspondence. Once all the correspondence was entered into PEPC system, each was read, and specific comments within each correspondence were identified. A total of 9,179 comments were derived from the correspondence received.

In order to categorize and address comments, each comment was given a code to identify its general content and that coding allowed similar comments to be grouped together. A total of 86 codes were used to categorize all of the comments received on the draft general management plan / environmental impact statement. An example of a code developed for this project is AE19000 Affected Environment: Other Agencies' Land Use Plans. In some cases, the same comment may be categorized under more than one code, reflecting the fact that the comment may contain more than one issue or idea.

During coding, comments were also classified as substantive or non-substantive. A substantive comment is defined in the NPS Director's Order 12 (DO-12) Handbook as one that does one or more of the following (DO-12, section 4.6A):

- question, with a reasonable basis, the accuracy of information presented in the environmental impact statement
- question, with reasonable basis, the adequacy of the environmental analysis
- present reasonable alternatives other than those presented in the environmental impact statement and/or
- cause changes or revisions in the proposal

As further stated in DO-12, substantive comments "raise, debate, or question a point of fact or policy. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy, are not considered substantive."

In addition to the substantive comments discussed above, the parkway received a variety of additional comments. Some were received from the public, and some from other agencies. These comments that did not meet the NEPA definition for “substantive comments” were all read, recorded, and coded according to topic area and are part of the administrative record, which is the official history of the general management plan / environmental impact statement. In addition, these comments were addressed in a variety of ways in the agency responses to comments (below).

Approximately 42% of the comments received related to 3 of the 86 codes. These codes were related to likes or dislikes about the plan, suggestions for improving the preferred alternative, and other comments related to the plan, and were all non-substantive. Of the 3,360 correspondences, 36% came from commenters in the state of North Carolina, 19% came from commenters in the state of Virginia, while the remaining comments came from 48 other states and nine other countries. The majority of comments (74%) came from unaffiliated individuals, with 22% of the correspondence coming from recreational groups.

## GUIDE TO THIS DOCUMENT

This report has the following two primary components:

**Content Analysis Report:** This is the basic report produced from the PEPC system that provides information on the numbers and types of comments received, organized by code and by various demographics. The first section is a summary of the number of comments that fall under each code or topic. Data are then presented on the amount of correspondence by type (i.e., amount of comments through the PEPC system, emails, letters, etc.); and amount received by organization type (i.e., organizations, governments, individuals, etc.); and amount received by state and country.

**Concern Response Report:** The concern response report identifies concern statements that are based on the substantive comments and other comments that necessitate clarification which were received during the draft general management plan / environmental impact statement public review comment process. The concern statements are organized by comment category and are supported by representative quotes from actual comments. Representative quotes are provided for each concern statement. An NPS agency response is then provided for each concern statement.

## CONTENT ANALYSIS REPORT

As mentioned above, this is the basic report produced from the PEPC system that provides information on the numbers and types of comments received, organized by code and by various demographics. Table 58 provides a summary of the number of comments that fall under each code or topic, and what percentage of comments falls under each code. This table lists the substantive and non-substantive comments received on the draft plan/environmental impact statement; however, only the substantive comments are included in the response portion of this document. The codes are presented alphabetically in this table.

Data are then presented on the amount of correspondence by type (i.e., number of comments through the PEPC system, emails, letters) (table 59), number received by organization type (i.e., organizations, governments, individuals) (table 60), and number received by state (table 61) and country (table 62).

**TABLE 58. CONTENT ANALYSIS REPORT**

<b>Code</b>	<b>Description</b>	<b>Number of Comments</b>
AE1003	Affected Environment: Solid and Hazardous Wastes, and Hazardous Materials	6
AE1010	Other Agencies' Land Use Plans: Impact Of Proposal And Alternatives	22
AE11000	Affected Environment: Species Of Special Concern	3
AE19000	Affected Environment: Other Agencies? Land Use Plans	93
AL2999	Alternatives: In favor of Alternative A	74
AL3001	Alternatives: In favor of Alternative B (Preferred)	137
AL3002	Alternatives: In favor of Alternative C	158
AL4000	Alternatives: New Alternatives Or Elements	89
AQ1000	Air Quality: Guiding Policies, Regs, Laws	2
CC1000	Consultation and Coordination: General Comments	197
CO001	Commercial Operations: Continue/Add	23
CO002	Commercial Operations: Restrict/Outsource/No Additional Services	23
CR1000	Cultural Resources: Guiding Policies, Regs And Laws	2
CR1001	Cultural Resources: National Historic Landmark Determination	939
CR1002	Cultural Resources: Historic Structures, Cultural Landscapes, Archeological Resources	3
ED1000	Editorial	5
ES1001	Erosion and Sediment Control: Guiding Policies, Regs and Laws	1
GC001	Other Comments: Global Climate Change	76
GR1000	Geologic Resources: Guiding Policies, Regs And Laws	1
IP100	ISSUES - Park management issues	52
IV002	Visitor Facilities: Facilities/Trails/Campsite Closures	207
IV101	Natural Resources: Soundscapes	49
IV102	Visitor Use: Hunter Access/Parking	2
MA9900	Maps: Zoning Maps	4
MI1002	Mitigations: Required/Recommended	64
MT1000	Miscellaneous Topics: General Comments	97
NE1001	NEPA: Public Involvement	20
NE1003	NEPA: Alternatives	25
NE5000	NEPA: Cumulative Impacts	1
NE5001	NEPA: Guiding Policies, Regs And Laws	3
NH0001	Visitor Facilities: Rocky Knob Natural Heritage Center	12
NR1001	Natural Resources: Air Quality	27
NR3001	Natural Resources: Soils	5
NR5003	Natural Resources: Floodplains	3
NR5004	Natural Resources: Wetlands	5
NR5005	Natural Resources: Geology	1
NR6000	Natural Resources: Impact Of Proposal And Alternatives	9
NR8500	Natural Resources: Water Resources/Quality	9
NR9001	Natural Resources: T&E/Rare Species And Habitat	29
NR9002	Floodplains: Guiding Policies, Regs And Laws	2
ON1000	Other NEPA Issues: General Comments	3
PM0001	Park Management: Ag Leases/Farmlands	4
PM0100	Park Management: Interpretation/Education	15

**TABLE 58. CONTENT ANALYSIS REPORT**

<b>Code</b>	<b>Description</b>	<b>Number of Comments</b>
PM1001	Park Management: Employees	5
PM1002	Park Management: Land Protection/Adjacent Landowners	34
PM6000	Park Management: Advertise/Better Marketing	22
PM7000	Park Management: Law Enforcement	19
PM7001	Park Management: Safety	87
PM9001	Park Management: Fire Management	1
PN1000	Purpose And Need: Planning Process And Policy	1
PN4000	Purpose And Need: Park Legislation/Authority	329
PN6000	Purpose And Need: Land Management Laws, Exec Orders	2
PO4001	Park Management: Budget/Funding Issues	108
PO5001	Park Management: Seasonal Use of Facilities	18
PO6000	Park Management: Public Involvement (Volunteering/Programs/Partnerships)	298
RE1000	Regional Agencies Planning: Guiding Policies, Regs And Laws	2
RF1000	References: General Comments	1
RR1000	Resolution: City of Roanoke Resolution	7
SE2000	Socioeconomics: Methodology And Assumptions	2
SE4000	Socioeconomics: Impact of Proposal And Alternatives	588
SH0001	Solid and Hazardous Wastes, and Hazardous Materials: Guiding Policies, Regs and Laws	1
SH0002	Solid and Hazardous Wastes, and Hazardous Materials: Impact of Alternatives	2
SI001	Park Management: Add/Redesign Signs	64
SM1000	Stormwater Management: Guiding Policies, Regs and Laws	1
SN1000	State Agency Planning: Guiding Policies, Regs And Laws	2
TC1000	Visitor Facilities: Infrastructure/Utilities	63
TE1000	Threatened And Endangered Species: Guiding Policies, Regs And Laws	4
TQ1-43487	What proposals or aspects do you like/dislike about the alternatives in this Draft General Management Plan / Environmental Impact Statement (DGMP / EIS)?	1,802
TQ2-43487	Do you have any suggestions for improving the preferred alternative in this DGMP / EIS? If so what are they?	1,531
TQ3-43487	Do you have any other comments related to this DGMP / EIS ?	1,115
TR0001	Visitor Facilities: Trail Access/Parking	50
TR1002	Transportation: Traffic/Congestion/Speed Limit	294
TR1003	Transportation: Relationship To Other Transportation Systems	369
VE4000	Visitor Experience: Impact Of Proposal And Alternatives	563
VF9000	Visitor Facilities: Sustainability/Pollution Prevention Management	5
VF:5001	Visitor Use: River Access/Water Activities	14
VH100	VALUES - Value the history or cultural resources	207
VN100	VALUES - Value the natural resources or setting (flora, fauna, views, natural quiet, undeveloped areas)	218
VQ001	Visual Resources: Viewsheds	202
VR6000	Natural Resources: Vegetation (Exotic Species)	15
VU1000	Visitor Use: Transportation (Alternative/Motorized/Non-motorized)	563
VU1001	Visitor Use: Cycling/Hiking/Bike Lanes/Access	3,108
VV100	VALUES - Value the visitor opportunities (activities, programs, recreation)	495

**TABLE 58. CONTENT ANALYSIS REPORT**

Code	Description	Number of Comments
WH1000	Wildlife And Wildlife Habitat: Guiding Policies, Regs And Laws	2
WI9000	Natural Resources: Wildlife/Wildlife Habitat	8
WQ1000	Water Resources: Guiding Policies, Regs And Laws	2
<b>Total</b>		<b>9,179</b>

**TABLE 59. CORRESPONDENCE DISTRIBUTION BY CORRESPONDENCE TYPE**

Type	Number of Correspondences
Web Form	2,850
Park Form	18
Letter	46
E-mail	446
<b>Total</b>	<b>3,360</b>

**TABLE 60. CORRESPONDENCE SIGNATURE COUNT BY ORGANIZATION TYPE**

Organization Type	Number of Correspondences
Town or City Government	1
County Government	10
Business	36
Federal Government	7
University/Professional Society	10
State Government	9
Conservation/Preservation	46
Recreational Groups	723
Non-Governmental	1
Civic Groups	1
Unaffiliated Individual	2,515
Churches, Religious Groups	1
<b>Total</b>	<b>3,360</b>

**TABLE 61. CORRESPONDENCE DISTRIBUTION BY STATE**

State	Percentage	Number of Correspondences
AK	0.03%	1
AL	0.27%	9
AR	0.12%	4
AZ	0.27%	9
CA	1.04%	35
CO	0.95%	32

**TABLE 61. CORRESPONDENCE DISTRIBUTION BY STATE**

State	Percentage	Number of Correspondences
CT	0.39%	13
DC	0.74%	25
DE	0.68%	23
FL	2.83%	95
GA	3.57%	120
HI	0.03%	1
IA	0.18%	6
ID	0.09%	3
IL	0.68%	23
IN	0.71%	24
KS	0.12%	4
KY	0.45%	15
LA	0.15%	5
MA	0.36%	12
MD	15.00%	504
ME	0.21%	7
MI	0.77%	26
MN	0.48%	16
MO	0.21%	7
MS	0.09%	3
MT	0.15%	5
NC	36.31%	1,221
ND	0.03%	1
NE	0.09%	3
NH	0.30%	10
NJ	0.77%	26
NM	0.09%	3
NV	0.06%	2
NY	0.98%	33
OH	1.40%	47
OK	0.15%	5
OR	0.57%	19
PA	1.67%	56
RI	0.09%	3
SC	2.65%	89

**TABLE 61. CORRESPONDENCE DISTRIBUTION BY STATE**

State	Percentage	Number of Correspondences
TN	2.35%	79
TX	0.77%	26
UN	0.03%	1
UT	0.12%	4
VA	19.02%	639
VI	0.03%	1
VT	0.27%	9
WA	0.33%	11
WI	0.33%	11
WV	0.27%	9
<b>Total</b>		<b>3,360</b>

**TABLE 62. CORRESPONDENCE DISTRIBUTION BY COUNTRY**

Country	Percentage	Number of Correspondences
Ireland	0.03%	1
Unspecified	0.03%	1
United Kingdom	0.03%	1
United States of America	99.26%	3,335
New Zealand	0.03%	1
Germany	0.06%	2
Spain	0.03%	1
Wallis and Futuna Islands	0.03%	1
Canada	0.45%	15
Israel	0.03%	1
Netherlands	0.03%	1
<b>Total</b>		<b>3,360</b>

## CONCERN RESPONSE REPORT

### NPS Responses to Comments

Comments that contain substantive points regarding information in the draft general management plan / environmental impact statement or comments that need clarification are extracted below. A concern statement has been developed to summarize each of these comments or collections of similar comments. Following each concern statement, “representative quotes” are also included

from original letters, edited only for style consistency and spelling. Representative quotes are a select subset or sampling of comments taken directly from the correspondence to illustrate the issue, concern, or idea expressed by the comments grouped under that concern statement. An NPS response is then provided for each concern statement. All comment letters from agencies, organizations, and businesses have been scanned and are included in this chapter.

Where appropriate, text in the Blue Ridge Parkway *Final General Management Plan / Environmental Impact Statement* has been revised to address comments and changes, as indicated in the following responses.

### Visitor Use and Experience

**Concern Statement #1:** *Clarify how bicycles may use the Blue Ridge Parkway under the management zoning proposed in alternative B. There were numerous concerns communicated to the Park, Region and WASO regarding the draft general management plan / environmental impact statement on the issue of bicycle use. Specifically, there were concerns that the draft general management plan / environmental impact statement would limit or prohibit bicycle use on the entire parkway.*

**Correspondence Id:** 1073

**Commenter:** Carol A. Parker

**Representative Quote:** “Please do not prohibit bicycling along the Blue Ridge Parkway. It is a dream trip for cyclists and should remain open to them. This is something the National Park Service should promote - they are quiet, do not contribute to air pollution or use energy, and promote good health. Please keep the parkway open to cyclists.”

**Correspondence Id:** 2253

**Commenter:** David Hutton

**Representative Quote:** “Please do not consider the option to ban bicycling on the Parkway.”

**Correspondence Id:** 2150

**Commenter:** Denise Lachniet

**Representative Quote:** “I have just been advised that there are changes being considered that would prohibit bicycling on the Blue Ridge Parkway. I am very concerned about this possibility.”

**Correspondence Id:** 2379

**Organization:** Roanoke Valley Greenway Commission

**Representative Quote:** “The GMP should initiate approval of bicycle use on non-paved surfaces. . . The GMP should encourage multiuse trails, including mountain bicycling. . .”

**NPS Response:**

The National Park Service does not propose limiting or prohibiting bicycle use on the Blue Ridge Parkway beyond existing law and policy related to safety and events and off pavement utilization. None of the alternatives, including the NPS preferred alternative, state that existing visitor uses such as bicycling would not continue; nor does the plan preclude consideration of new uses. There are many activities that occur on the parkway—hiking, horseback riding, motorcycle use, running, bird watching—such uses are allowed where appropriate given resource protection and safety concerns. All uses of the Blue Ridge Parkway are currently and will continue to be managed under federal laws and NPS policies.

Some public comments suggested that biking on non-paved trails (e.g., mountain biking) should be allowed on parkway lands. However, during the development of alternatives process, NPS staff applied a cost/benefit analysis tool (called Choosing by Advantages) to assess the value of allowing biking on non-paved trails. The analysis determined that the benefits of this use did not justify the costs (e.g., impacts to resources, trails, etc.) and that adding an additional active use such as this to the parkway is not appropriate.

Also, as it relates to bicycling and as mentioned in the NPS response to “Factual Corrections” comments, it should be noted

that the Boone/Blowing Rock multiuse trail is not an element of alternative B (the NPS preferred alternative). In the draft general management plan / environmental impact statement this trail was mistakenly included under alternative B, when it should have been described under alternative C. The correction has been made in the final general management plan / environmental impact statement. This proposed action was not identified as part of the NPS preferred alternative due to high costs to construct and maintain and the potential adverse effects to the parkway’s cultural and scenic landscapes.

**Concern Statement #2:** *The final general management plan / environmental impact statement should clarify that residential neighborhoods abutting the parkway and other adjacent private lands will not be negatively affected by visitor traffic, visitor parking, off-leash dogs, and/or undesignated social trail development near/through neighborhoods.*

**Correspondence Id:** 84

**Commenter:** Calvin Underwood

**Representative Quote:** “I am concerned about connecting to 'community trails' since some may emerge into residential neighborhoods.”

**Correspondence Id:** 80

**Commenter:** Kept Private

**Representative Quote:** “Alternative B (NPS Preferred) can be improved by saying up front that the residential neighborhoods adjoining the Parkway will not be impacted. These are residential neighborhoods that were not designed for visitor traffic to access the Parkway. Many have narrow winding roads that can barely accommodate the people who live there. All access to trails should be from the Parkway.”

**Correspondence Id:** 2594

**Commenter:** Warren J Gaughan

**Representative Quote:** “I’m also someone who lives adjacent to an informal trail that has been worn by locals behind Munn Drive in the Haw Creek area, and my own quality of life has been compromised considerably by

inconsiderate hikers, bikers and dog walkers who use no leashes . . . Development of this so called "trail connector" or any others should consider input from legitimate local stakeholders whose land is adjacent to such connector trails, not necessarily local hikers, bikers and dog walkers who feel "entitled" to use it. I support maintaining current paved parking areas to accommodate trail access. I do have concerns about informal parking near any trail which affects the safety, land, and lifestyle of those living immediately nearby.”

**Correspondence Id: 2603**

**Organization:** County of Roanoke  
**Representative Quote:** “As outlined in the County's comments for the Roanoke Valley/Blue Ridge Parkway Trail Plan (enclosed and included as part of the County's comments)... The following modifications to Alternative C of the Roanoke Valley/Blue Ridge Parkway Trail Plan were recommended by the County in support of the development of bicycle and pedestrian connections between the Blue Ridge Parkway and the Roanoke Valley's regional trail system: . . .Unauthorized social trails remain open until such time that resources are available to provide alternative access points for the citizens in our communities. . .”

**NPS Response:**

As noted by the above representative quotes, some varying opinions on unauthorized social trails exist amongst the public and agency comments. Local residents and property owners expressed concerns with adverse effects on private property and local neighborhoods from the public use and spread of undesignated social trails. Whereas, one local government requested that unauthorized social trails remain open until alternative access points are made available to community residents.

The National Park Service has responded to these comments as follows. The descriptions of alternatives B and C in chapter 2 have been modified to specifically state that undesignated social trails are not authorized within the parkway and any future designated connections to parkway trails would only be

developed on public lands in collaboration with the associated land management agencies. In addition, the alternative descriptions now state that the National Park Service will strive to close and restore undesignated social trails in the parkway as much as possible, particularly when the undesignated trails are known to be causing notable negative impacts to local natural resources, visitor experiences, or adjacent neighborhoods.

The alternative descriptions have also been revised to state that adequate, formal parking areas to designated parkway trails would be developed to ensure visitor safety, protect resources, and preserve community character in adjacent or nearby neighborhoods.

**Concern Statement #3:** *Consider recreation plans of other local, regional, state, and federal agencies, such as Roanoke Valley Greenway System, and allow for connections to other recreational systems, sites, and communities.*

**Correspondence Id: 2603**

**Organization:** County of Roanoke  
**Representative Quote:** “As the Draft GMP provides over-arching, long-range strategies, as opposed to the inclusion of specific details for implementation, the County has a particular concern with the reference in Alternative B to "actively manage [the Parkway] as a traditional, self-contained, scenic recreational driving experience. . .” While Alternative B indicates support of enhanced opportunities for dispersed outdoor recreation activities, Alternative C has more emphasis on reaching out to communities along the Blue Ridge Parkway. Alternative B appears to focus on promoting the driving experience with less emphasis on the bicycle and pedestrian amenities. It is important that connections between our parks and trails be promoted for expanded use of the Blue Ridge Parkway for outdoor recreational purposes. In particular, the County is very supportive of the development of multiuse trails for hiking, biking and equestrian use. As outlined in the County's comments for the Roanoke Valley/Blue Ridge Parkway Trail Plan



(enclosed and included as part of the County's comments), volunteer trail development and re-establishment of maintenance agreements are encouraged to connect the Blue Ridge Parkway to the Roanoke Valley Greenway system through an adaptive management approach of trail resources. The following modifications to Alternative C of the Roanoke Valley/Blue Ridge Parkway Trail Plan were recommended by the County in support of the development of bicycle and pedestrian connections between the Blue Ridge Parkway and the Roanoke Valley's regional trail system: -Provide extension of the Roanoke River Greenway along the Roanoke River from the Parkway to Explore Park; exact route to be determined upon coordination with the Parkway, Roanoke Valley Resource Authority (RVRA), Explore Park/VRFA, and Roanoke County; ...- Include one-year pilot project to evaluate shared use of the Chestnut Ridge Loop for hikers, equestrians, and mountain bikers; and - Acknowledge the need for a trail crossing (bridge) at the Roanoke River; and - Explore additional options for access and crossings at Rutrough Road, as current location shown on maps has limited sight distance.”

**Correspondence Id:** 2472

**Organization:** Roanoke Valley-Alleghany Regional Commission

**Representative Quote:** “Work with localities and stakeholders to provide a seamless connection from the Parkway corridor and Roanoke utilizing the on-road accommodations (Mill Mountain Parkway Spur), existing parks (Mill Mountain), Mill Mountain trails (Chestnut Ridge Loop, Wood Thrush Trail, etc.), and greenways (Mill Mountain Greenway).”

**Correspondence Id:** 2379

**Organization:** Roanoke Valley Greenway Commission

**Representative Quote:** “The GMP should endorse the connection of the Parkway to regional trail networks, such as the Roanoke Valley Greenway system.”

**NPS Response:**

The National Park Service is authorized and directed to prepare general management plans for each park unit. The purpose of a general management plan is to identify and clearly describe specific resource conditions to be achieved, and to identify the kinds of management that would be appropriate in achieving and maintaining those conditions. For the Blue Ridge Parkway, the policy set forth in *NPS Management Policies 2006* section 8.2 was adopted regarding recreational activities. The decisions made as part of the general management plan / environmental impact statement planning process, including the decision to reflect current NPS management policies for visitor use and trail planning, are appropriate to that level of planning.

Overall, the general management plan is not intended to address the details of site-specific or trail-specific design projects or coordination strategies. Instead, the general management plan is more of a long-term, conceptual guidance document that guides the National Park Service to collaborate and partner with local, state, and other federal agencies or organizations to achieve the management goals outlined in the general management plan. The exact ways these partnerships or partnership projects are carried out is left to the various subsequent implementation plans/projects that will follow the general management plan in future years. The “Future Studies and Implementation Plans Needed” section of chapter 2 provides some insight into expected areas of future planning projects (including access and trail plans).

In the section called “Relationship of Other Planning Efforts to This General Management Plan” (in “Chapter 1: Purpose and Need”), the general management plan / environmental impact statement notes that the “Roanoke Valley Trail Plan / Environmental Assessment” is currently underway, thereby appropriately deferring alternatives for and decisions about the goals, objectives, and development of trails along/adjoining the parkway in the Roanoke Valley to this

*Roanoke Valley Trail Plan / Environmental Assessment.*

This section of the general management plan / environmental impact statement also references other related planning efforts along the extent of the parkway. There are numerous other areas where the National Park Service has worked with localities, regions, state or other federal partners on planning projects that intersect with or impact the parkway. The projects mentioned in this section of the general management plan / environmental impact statement are projects currently underway and do not represent all planning projects that the National Park Service has been a partner in, nor does the plan address actions not on federal lands that may be included in those plans.

All draft general management plan / environmental impact statement alternatives, including the “no-action” alternative, allow for such planning and the consideration of connections to other recreational systems. The general management plan / environmental impact statement in fact encourages those connections in the Waynesboro, Roanoke, Boone/Blowing Rock, and Asheville areas. Nothing in any of the general management plan alternatives precludes connections to trail systems where appropriate. The parkway is currently working on such plans in several areas and will continue to do so in the future, regardless of which alternative is selected.

**Concern Statement #4:** *The Roanoke Campground should not be closed, as per the NPS preferred alternative of the draft general management plan / environmental impact statement.*

**Correspondence Id:** 2379

**Organization:** Roanoke Valley Greenway Commission

**Representative Quote:** “Retain Roanoke Mountain Campground and improve it with showers and mountain biking opportunities. e. Continue the parkway design features in any new buildings.”

**NPS Response:**

To determine the future of the Roanoke Mountain campground in the general management plan, the National Park Service assessed demand for overnight camping and the cost to maintain and operate the facility. As noted in the “Visitor Use and Experience” section of “Chapter 3: Affected Environment”, the Roanoke Mountain campground has the lowest level of average seasonal occupancy of all NPS campgrounds along the parkway (less than 25% average seasonal occupancy). The National Park Service determined that it is not cost-effective to continue operating Roanoke Mountain campground. As described in the alternative descriptions in chapter 2, the National Park Service intends to convert this campground area to a day-use recreation area. Over the duration of this conversion from a campground to a day use area, the National Park Service will collaborate with local communities and other park partners to consider innovative ways to effectively manage this area in the interim.

**Cultural Resources**

**Concern Statement #1:** *Clarify how designation as a national historic landmark differs from the current status of the Blue Ridge Parkway as a cultural resource. Specifically, would it preclude changes to the resource or create a new regulatory requirement?*

**Correspondence Id:** 2379

**Organization:** Roanoke Valley Greenway Commission

**Representative Quote:** “Other Recommended Changes a. National Historic Landmark Designation is the wrong way to protect the Parkway. This status will create obstacles and red bureaucratic red tape, and entomb the parkway in a virtual time capsule. Protect and maintain individual historic structures instead.”

**NPS Response:**

The Blue Ridge Parkway is currently eligible for listing in the National Register of Historic Places because of its significant designed landscape, age, and contributing features, and

its status as a world-renowned exemplar of rural parkway design. This determination of eligibility for listing in the National Register of Historic Places means that NPS managers are required by law to manage all national register-eligible properties in the same manner as national register-listed properties, adhering to the same laws and standards, primarily the National Historic Preservation Act of 1966 (as amended) and *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*.

Section 110 of the National Historic Preservation Act requires all federal agencies to ensure that all "historic properties under the jurisdiction or control of the agency, are identified, evaluated, and nominated to the National Register." The National Register of Historic Places is the federal government's official list of properties that are worthy of preservation. While properties listed in the national register can be significant at a local, state, or national level, properties designated to be national historic landmarks are recognized by the Secretary of the Interior as possessing national significance for their exceptional national value in representing or illustrating an important theme in the history of the Nation. National historic landmarks are America's most historically significant places and are instrumental to the understanding of American history. Determinations of national significance are made by professional historians who judge and evaluate properties within a historic context. For example, a Civil War skirmish might be judged to be significant at a local level, while a battle that represented a turning point in a specific campaign might achieve state or national significance. A major battle that represented a turning point in the war—like Vicksburg—would be judged to rise above national significance in the national register and would be designated an national historic landmark. The National Park Service is required by law to evaluate the parkway by using national register criteria. After applying these criteria, historians believe that Blue Ridge Parkway's parkway rises to the national historic landmark level of exceptional national significance, and therefore, national historic

landmark designation is the most appropriate level of designation for the parkway.

It is important to understand that the Blue Ridge Parkway is a resource that is comprised of an interconnected system of features designed to form a cohesive scenic driving experience. The parkway includes not only historic structures but, beyond this, forms a continuous landscape created by natural and cultural elements such as vegetation, scenic views and vistas, important roadway circulation patterns, historic structures, and numerous small-scale features. All of these elements work together to form a unified whole, and thus, they cannot be separated as discreet, individual resources. This is why the resource nominated for national historic landmark designation is the Blue Ridge Parkway as one whole resource.

Activities that affect national register-listed or -eligible resources and national historic landmarks are regulated principally by sections 106 and 110(f) of the National Historic Preservation Act, which states that federal agencies must "take into account" the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking and its effects. Implementing regulations of the Council may be found in 36 CFR Part 800, "Protection of Historic Properties," which establish a process of consultation with the State Historic Preservation Officer and the Council leading, in most instances, to agreement on how the undertaking will proceed. As with an assessment of impacts to resources eligible for listing in the National Register of Historic Places, steps in the process include identification and evaluation of national historic landmark-designated properties that may be affected, assessment of the effects of the federal action, and resolution of any adverse effects that would occur. If a federal activity will "directly and adversely affect" a landmark, section 110(f) of the act also calls for federal agencies to undertake 'such planning and actions as may be necessary to minimize harm to such Landmark.' If adverse effects would occur, the National Park Service

must request the participation of the Council to resolve such adverse effects, as outlined in 36 CFR Part 800.10. The Secretary of the Interior must also be notified of any potential effects and be invited to participate in consultation. It is important to keep in mind that the law does not forbid specific actions, even those damaging to historic properties, including national historic landmarks. The purpose of the law is to require federal agencies to consider the effects of their undertakings on the nation's historic properties, and minimize effects to national historic landmarks in particular to the maximum extent possible. This means that if the Blue Ridge Parkway is designated a national historic landmark, there would be less tolerance for adverse effects to significant features identified to be contributing to the parkway's significance as a Landmark, than those that might be allowable for a national register-listed or -eligible resource. Once the statutory requirements for consultation are accomplished, federal agencies may choose to proceed with the undertaking as originally planned, modify it to mitigate damage to the historic property, or not undertake the project (NPS 2011c). Stakeholder groups would be notified of such projects or activities that have potential to impact any national historic landmark-designated resources, such as the Blue Ridge Parkway. All groups would have an opportunity to provide feedback and comment concerning these activities.

In addition to a higher level of resource protection afforded by national historic landmark designation, the Landmark nomination for the Blue Ridge Parkway would include a list of contributing and non-contributing resources. Activities impacting non-contributing elements is not required to meet *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (the standards for maintaining cultural resources), provided that those actions do not directly or indirectly impact adjacent contributing elements. In the absence of a National Register nomination, parkway management has had to assume that all resources are potentially contributing to the Blue Ridge Parkway. Therefore, the

identification of contributing and non-contributing resources in the forthcoming national historic landmark nomination will facilitate assessments of impacts to cultural resources associated with actions and activities that may occur along the parkway by streamlining the process for non-contributing features. For more information on national historic landmarks and their designation, please visit the NPS website: <http://www.nps.gov/nhl/QA.htm>

Concern Statement #2: *Appendix B. Determination of Impairment includes phrases more appropriate for cultural landscapes and historic structures rather than for archeological resources, which may be national register-eligible for their information value under National Register Criterion D. Such adverse impacts would be permanent.*

**Correspondence Id:** 2642

**Commenter:** Commonwealth of Virginia, Department of Historic Resources  
**Representative Quote:** "On page 567, Archaeological resources, it is stated that: *Some impacts could be mitigated through the use of appropriate screening and use of vegetation and appropriate design and new, non-contributing additions could be designed to be compatible with the historic setting.* These are not in fact appropriate mitigations for archaeological sites, but for cultural landscapes and structures. On page p. 568 it is stated that *Ground-disturbing activities related to the construction of new concession facilities could result in long-term adverse impacts because some sites features or artifacts could be altered, even though their information value would be retained.* However, archaeological sites may be eligible for more than their information value. Archaeological sites may be eligible under criteria A and B as well as D. They may also be of cultural importance to living communities. Again, on p.568 it is stated that *any potential ground-disturbing activities could cause short-term adverse impacts on archaeological resources.* Unfortunately archaeological sites are non-renewable resources. Ground-disturbing activities have the potential to cause permanent and severe

impacts to archaeological resources to the point of total destruction.”

**NPS Response:**

The National Park Service agrees with this characterization of impacts and appropriate mitigating measures for archeological resources. The determination of impairment has been revised to state that project-related activities could result in permanent adverse impacts on archeological resources due to loss of surface archeological materials, altered artifact distribution, or a reduction of contextual evidence could result from these activities. However, such adverse impacts would be avoided or mitigated prior to ground-disturbing activities. Archeological survey in the area of potential effect would identify sites listed or eligible for listing in the National Register of Historic Places. Archeological resources listed or eligible for listing in the National Register of Historic Places would be avoided or mitigated through consultation with the State Historic Preservation Officer.

Please note that, in accordance with recent NPS policy, Appendix B: Determination of Impairment has been removed from this plan and will instead be attached to the record of decision for the final general management plan / environmental impact statement. The revised text, described above, will be included in this attachment.

**Concern Statement #3:** *The type of trail improvements to the Rockcastle Gorge system alternative B is not clear, making it difficult to assess potential impacts to cultural resources.*

**Correspondence Id:** 2642

**Commenter:** Commonwealth of Virginia, Department of Historic Resources  
**Representative Quote:** “We have some concern about the effects of Alternative B as presented in the comparison of alternatives from upgrading the Gorge Trail System. There is a special cultural resource zone in Rockcastle Gorge where there are remnants of an abandoned mountain community. Alternative C proposes *In proximity of the*

*historic settlement sites, including the fire road, allow hiking only.* We are not clear whether the upgrade proposed in Alternative B would be for a multiuse trail, rather than hiking only.”

**NPS Response:**

Alternative B for Rocky Knob has been revised to state that, “In proximity of the historic settlement sites, including the fire road, allow hiking only.” This clarifies that a multiuse trail system in Rock Castle Gorge is not proposed under the NPS preferred alternative. In addition, the cultural resource impact analysis now explains that trail improvements in the Rockcastle Gorge area would allow for more law enforcement-led programs that would result in an increase in park law enforcement presence, and thus, an increase monitoring and protection of historic buildings and landscape features in this area.

**Concern Statement #4:** *The discussion of impacts in the Rockcastle Gorge area is too narrowly focused on “historic structures” and does not include impacts to “buildings.” A cultural landscape report and ethnographic overview and assessment have not been submitted to the Department of Historic Resources for approval.*

**Correspondence Id:** 2642

**Commenter:** Commonwealth of Virginia, Department of Historic Resources  
**Representative Quote:** “Discussion of impacts to historic structures here and elsewhere in the document is too narrowly focused on structures that make up the parkway. Impacts to buildings, such as the CCC-era cabin and the Rock Castle Gorge Mountain Community must also be considered. We understand that the cultural landscape report for Rocky Knob is incomplete. No draft has yet been submitted to DHR. DHR has also not received the ethnographic overview and assessment scheduled for approval in 2011(p. 227). Consequently we do not know the status or condition of the buildings remaining in the special cultural resource zone.”

**NPS Response:**

The National Park Service defines “historic structures” to be “a constructed work. . . consciously created to serve some human activity.” The term “historic structures” includes buildings and monuments, dams, millraces and canals, nautical vessels, bridges, tunnels and roads, railroad locomotives, rolling stock and track, stockades and fences, defensive works, temple mounds and kivas, ruins of all structural types, and outdoor sculpture. Therefore, the use of the term “historic structures” in this document is inclusive of the historic buildings identified in the Rock Castle Gorge Community. The cultural landscape report for Rocky Knob and the ethnographic overview and assessment are forthcoming, and the National Park Service plans to submit these reports to the Virginia Department of Historic Resources as soon as they are ready. Until this documentation is completed, these areas will be managed as historic properties, as required under the National Historic Preservation Act.

**Soundscapes**

**Concern Statement #1:** *Under Soundscape (chapter 1, page 31) define what the BLRI Noise Ordinance and 36 CFR 2.12 states. In addition, the noise abatement mitigations (chapter 2, page 93) could be referenced. These items document issues that need to be further explained for better understanding in the final general management plan / environmental impact statement.*

**Correspondence Id: 2**

**Commenter:** Grant Millin

**Representative Quote:** “I have not viewed the entire BRP DGMP/EIS plan for solutions related to motorcycles, but having followed the subject and communicated with Superintendent Francis, Chief Ranger Stinnett, the NPS Natural Sounds Program, the acting NPS director, and even US Rep. Shuler, no significant response has been generated to date regarding POV noise pollution on the Blue Ridge Parkway. Nothing whatsoever, all despite decades of federal code supporting action. The good news is the

BRP DGMP/EIS officially recognizes the situation. I have often framed the noise issues as important, but I am also concerned for the safety of motorcyclists. I address both issues here. One of the important adjacent solutions would be to create a coalition with community stakeholders and mutual aid public safety agencies in regions adjoining the BRP, with a NPS Noise Mitigation Program in hand. The Blue Ridge Parkway needs a relevant Noise Mitigation Strategy.”

**Correspondence Id: 2**

**Commenter:** Grant Millin

**Representative Quote:** “The National Park Service needs a new Noise Mitigation Program, and the Blue Ridge Parkway needs to be a leader in making that happen. The entire National Park Service needs to support BRP on this matter with a uniform policy. This would in all likelihood mean an end to Rolling Thunder at the National Mall. Even with NPS managed EPA label-match up stops, the idea of having to accommodate such interdiction would mean a special 'noise mitigation fee' to bring in extra staff. It would seem that the idea of hundreds of motorcycles grouped at a single time in a specific geographic area is not compatible with the NPS mission, its programs and ordinances. Thus, elementary changes in the NPS relationship with illegally modified privately owned vehicles (POVs) and those violators is part of the solution. They may be taxpayers with constitutional rights, but their behavior is still obviously not part of the NPS mission and the needs of the majority of NPS visitors. That's really the first strategic, conceptual sort of thinking and communication element needed in these matters; surprisingly significant matters given the relative small population these noise violators represent.”

**Correspondence Id: 2561**

**Commenter:** Bob Gale

**Organization:** Western North Carolina Alliance

**Representative Quote:** “There has been an increase in sound impacts on the Parkway, in recent years, attributable to motorcycles specifically designed for, or altered to produce, a high decibel output. This is

inconsistent with what a majority of Parkway users consider a major adverse impact. The General Management Plan should address the issue if current Parkway or Park Service standards do not adequately cover this.”

**NPS Response:**

The parkway’s natural soundscape is a very important resource that contributes to the park’s character. Based on public input and further consideration, the National Park Service determined that the issue of noise and soundscape were not adequately addressed in the draft general management plan / environmental impact statement. To clarify NPS and Blue Ridge Parkway policy on noise and soundscape, multiple sections have been added to the final general management plan / environmental impact statement. More specifically, the “Alternatives” section in chapter 2 includes general and specific soundscape management strategies that are to be implemented with the GMP (including strategies for motorcycle noise mitigation). The final general management plan / environmental impact statement also includes a description of the park’s soundscape (“Chapter 3: Affected Environment”) and a discussion of the potential impacts from implementing the general management plan alternatives (“Chapter 4: Environmental Consequences”).

**Administrative Commitments**

*Concern Statement #1: The North Carolina Natural Heritage Program (NCNHP) requested that the general management plan clearly document the existing registry agreements between the National Park Service and the NCNHP on significant natural heritage areas. The NCNHP also requested that all management strategies at parkway recreation areas be consistent with the registry agreements of the respective natural heritage areas within the recreation areas.*

**Correspondence Id:** 2532

**Organization:** North Carolina Natural Heritage Program

**Representative Quote:** “The NC Natural Heritage Program holds Registry Agreements with the National Park Service on Significant Natural Heritage Areas (SNHAs) within the Blue Ridge Parkway in areas of especially high conservation value. The objectives of the Registry Agreements are to establish reserves for rare species, encourage educational activities and scientific research, preserve unique and unusual natural features, and protect natural areas against uses which would destroy their natural conditions. NHP recommends recognition of the Registry Agreements in the section of the General Management Plan entitled "Special Mandates and Administrative Commitments" in Chapter 1 and also in the Natural Resources Protection section.”

**Correspondence Id:** 2532

**Organization:** North Carolina Natural Heritage Program

**Representative Quote:** “There are a total of 42 Registered Natural Heritage Areas (RHAs) within the Blue Ridge Parkway. Six out of the fifteen recreation areas described in detail in this Plan have Registered Natural Heritage Areas within them. These sites include the Linville Falls RHA, The Craggies RHA, Mount Pisgah RHA, Julian Price Park Wetland RHA, Doughton Park RHA, and Chestnut Creek Swamp Forest-Bog Complex RHA, which occurs within the Cumberland Knob recreation area. NHP requests that strategies for these recreation areas be consistent with the Registry Agreements in order to minimize impacts to these sensitive areas. Ideally, the Registered Natural Heritage Areas would be designated as Special Natural Resource Areas in the Parkway. At a minimum, new trails or proposed recreation areas should be designed in a way that avoids rare species populations and sensitive habitats to prevent trampling and deter poaching activity.”

**NPS Response:**

The National Park Service acknowledges the registry agreements between the National Park Service and the North Carolina and Virginia Natural Heritage Programs on managing natural heritage areas on parkway lands. The “Special Mandates and

Administrative Commitments” section in chapter 1 has been modified to include a reference to the registry agreements. Also, the National Park Service considers the assigned management zoning at the parkway recreation areas (see descriptions of alternatives in chapter 2) and the standard NPS mitigation measures used to protect natural resources to be consistent with the registry agreements. The zoning and mitigation measures should sufficiently protect the sensitive resources of the designated natural heritage areas in the recreation areas. As noted in the “Management Zones” section of chapter 2, “All globally imperiled habitats, state natural heritage areas and conservation sites, and federal and state listed species would be protected within all of the management zones, as required by NPS policy” (see summary table of management zone descriptions).

However, it is also important to note that designated natural heritage areas were intentionally not zoned with the “Special National Resources” zone because this would identify their exact locations in the general management plan and on the parkway maps. Due to the concern and real threat of poaching of rare species, this approach was not taken. Regardless, NPS park staff is aware of the natural heritage area locations, resources, and conditions and factor the designations into their management of the sensitive resources that inhabit the areas.

## Natural Resources

**Concern Statement #1:** *The NPS preferred alternative should be enhanced by incorporating various natural resource management and mitigation measures that would improve ecological health along the parkway corridor and beyond.*

**Correspondence Id:** 2517

**Organization:** U.S.D.A. Forest Service

**Representative Quote:** “Management of spruce and fir around Mt. Pisgah should be emphasized including use of vegetation management techniques that increase the

vigor of individuals and groups of the species.”

**Correspondence Id:** 2532

**Organization:** North Carolina Natural Heritage Program

**Representative Quote:** “. . .we recommend that preserving and enhancing landscape connectivity along the entire length of the Parkway be given a high priority. At the I-40 crossing shown on the map, for instance, construction of a wildlife overpass adjacent to the existing bridge would greatly increase the connectivity value of this corridor. Enhancing the ability of species to move between the southern and northern mountains would improve the connectivity function provided by the Parkway.”

**Correspondence Id:** 2623

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “EPA recommends that NPS consider large mammal wildlife passages to address this safety concern. NPS should consult with NCWRC and USFWS on the design of appropriate wildlife passages.”

**Correspondence Id:** 2623

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “EPA supports the use of registered herbicides if they are properly applied by licensed applicators, because there does not appear to be any cost-effective alternatives for controlling the spread of invasive exotic plant infestations. Infested sites are often situated in remote areas making mechanical removal impractical because of access difficulties. Keeping abreast of treatment frequencies, vulnerabilities of pest species, protection for threatened and endangered species residing at hundreds of differing locales, clearly require sophisticated management tools. Integrated management techniques including herbicides, mechanical removal, fire, biological controls, need to be coordinated through the use of GIS-based management tools to ensure that invasive species control is achievable for the long term. EPA recommends an integrated pest management approach be developed using



products with a low toxicity profile in sensitive ecosystems, since studies done in labs and under controlled conditions cannot always predict the effects on particularly sensitive individuals, biota or ecosystems. Successful eradication measures and other Best Management Practices (BMPs) should be clearly identified in the FEIS with emphasis on the construction of new trails and parking facilities.”

**Correspondence Id:** 2379

**Organization:** Roanoke Valley Greenway Commission

**Representative Quote:** “Trail Management a. The Greenway Commission is concerned that there is so little discussion in the plan of sustainable trail design. While the GMP recognizes that trails are in poor condition and that this is a big issue to visitors (p. 254), it addresses that by hardening the trails, rather than be designing them sustainably. The Parkway has the most poorly designed trails in our region and uses asphalt to correct erosion problems, thus significantly altering the trail experience. b. The GMP fails to recognize the pivotal role of volunteers in sustainable trail design and maintenance. . . .”

**NPS Response:**

As appropriate, the description of the NPS preferred alternative (alternative B) and the description of mitigation measures that apply to all action alternatives have been modified to address various comments and suggestions that were offered to improve the proposed alternative (in chapter 2, see sections titled, “The Alternatives” and “Mitigation Measures Common to the Action Alternatives”). For example, the issues raised in the above representative quotes are addressed as follows:

The forest management emphasis for parkway segment 7 (which includes the higher altitude forests in and around the Mount Pisgah recreation area) has been strengthened in the description of the NPS preferred alternative (alternative B). This change highlights the importance of maintaining healthy spruce and fir stands in this area.

As noted in various comments, the parkway has great ecological importance in that it provides ecological connectivity along the Virginia and North Carolina Appalachian ranges. The NPS preferred alternative incorporates multiple approaches and strategies that will help maintain and enhance this ecological connection. For example, this alternative shifts the park’s wildlife management focus to a regional, ecosystem-based approach that encourages active regional partnerships with public and private entities. Invasive flora and fauna would also be managed via a similar approach. Park staff will also be more proactive in managing natural resources by following a multiyear resource management plan for monitoring and management actions. In addition, the NPS will implement a land protection strategy that would identify high priority tracts of adjacent private land (based on prioritization criteria, including resource value) that would be pursued if/when the tracts become available from willing sellers. Also, and more specifically, the overall regional, ecosystem-based approach to wildlife management under the NPS preferred alternative would allow the consideration of the suggested large mammal wildlife passages along the parkway (e.g., at the I-40 crossing, etc.), as wildlife passages are consistent with the general management plan. However, subsequent analysis and decisions related to potential wildlife passage placement would be subject to available funding and interagency compliance and support.

The “Mitigation Measures Common to the Action Alternatives” section on invasive species has been modified to emphasize the use of an integrated pest management approach for invasive plant management. This use of this approach will identify the various integrated management techniques that would be applied at various park sites and offer mechanisms for tracking long-term results and trends (e.g., GIS-based tools). The use of registered herbicides has been noted, as well as the importance of using low toxicity applications in areas of sensitive resources. The mitigation measure narrative has also been modified to emphasize that integrated pest management would not only be applied at

the Boone/Blowing Rock area (Segment 4) as part of the Preferred Alternative B. The existing habitat and proposed length and width of the paved trail is not specified in the DEIS.”

**Correspondence Id:** 2623

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “Page 202 of the DEIS uses both meters and miles in the same paragraph. EPA recommends consistent units of measure should be employed.”

**Correspondence Id:** 2519

**Organization:** EASTERN NATIONAL

**Representative Quote:** “Both printed and online versions of the DGMP/EIS Chapter 4 comparison of alternatives repeatedly refer to Doughton Park area features under a Craggy Gardens heading.”

**Correspondence Id:** 3

**Commenter:** Kept Private

**Representative Quote:** “There were at least 3 different numbers used for the number of annual visitors (pg 5 - 17 million; pg 44 21 million; pg 95 more than 16 million). Be consistent or explain the difference between recreational visitors and visitors.”

**NPS Response:**

The final general management plan / environmental impact statement has been modified and edited to address the various factual inaccuracies or inconsistencies noted in the public comments. For example, to address the above representative quotes, the final general management plan / environmental impact statement includes corrected and consistent references to numbers of threatened and endangered species in the parkway and annual visitation numbers. Other confusing or misleading uses of meters/miles and parksite names have also been corrected.

Also, for clarification, it should be noted that the Boone/Blowing Rock multiuse trail is not an element of alternative B (the NPS preferred alternative). In the draft general management plan / environmental impact statement this trail was mistakenly included under

alternative B, when it should have been described under alternative C. The correction has been made in the final general management plan / environmental impact statement. This proposed action was not identified as part of the NPS preferred alternative due to high costs to construct and maintain and the potential adverse effects to the parkway’s cultural and scenic landscapes.

### **Comments Already Addressed in the General Management Plan**

**Concern Statement:** *Several commenters had concerns or suggestions on issues that have already been addressed by the draft general management plan / environmental impact statement. These concerns related to items such as carbon footprint mitigation measures, reduced reliance on automobiles, and the application of guidance from the NPS Organic Act of 1916.*

**Correspondence Id:** 2623

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “EPA recommends the NPS identify mitigative measures to reduce potential increased pollutant emissions (e.g., Solar powered electrical sources).”

**Correspondence Id:** 2623

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “Air pollution sources from within the parkway is also expected to continue to contribute to poor air quality, with the major contributor being motor vehicle emissions from visitors and commuters traveling the parkway. EPA recommends NPS should look to develop other options that reduce reliance on automobiles and that favor other forms of recreational transportation for visitors (i.e. Bicycles).”

**Correspondence Id:** 2567

**Organization:** National Parks Conservation Association

**Representative Quote:** “...in choosing to increase the management emphasis on

enhanced recreation, the language of the draft document may leave some readers with the impression that recreational access and use will take precedence over the protection of the Parkway's natural and cultural resources. This impression can be eliminated by more directly stating the Park Service's obligation under the Organic Act to protect the purpose of the parks? ". . . which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. . . .for the benefit of future managers, we feel that it is important that the final GMP clearly and repeatedly state, in stronger and more emphatic language, that the push for recreational improvements cannot override resource protection. Only in this way will Alternative B be able to strike a true balance between resource preservation and recreational enhancement, while fulfilling the requirements of the Organic Act."

**Correspondence Id:** 2519

**Organization:** EASTERN NATIONAL

**Representative Quote:** "Significantly expand the assessment and planning alternatives for the very heavily used Craggy Gardens recreation area to include improvements for the visitor contact station and parking."

**NPS Response:**

The NPS staff found that several of the commenters' suggested improvements to the general management plan / environmental impact statement were already addressed and adequately covered in the draft general management plan / environmental impact statement. For example, in chapter 2 ("Alternatives"), there are two sections that provide mitigation guidance and explanation to reduce the carbon footprint of the parkway, promote energy efficient practices, and sustainable design (see chapter 2 sections titled "Mitigation Measures Common to the Action Alternatives" and "Management Strategies to Address Climate Change").

Another commenter expressed concern that the general management plan doesn't

effectively emphasize the guidance from the NPS Organic Act. However, the "Servicewide Laws and Policies" section of chapter 1 provides a description of how the NPS follows the Organic Act, as it relates to the development of the general management plan. This section of the document also identifies other mandated policy guidance that the NPS must uphold. In addition, the proposed management zoning in the general management plan prescribes management across the landscape in a way that inherently aims to fulfill the intention of the Organic Act by effectively balancing recreation with resource protection and ensuring that resources are not impaired by the allowed uses. The proposed management zoning and mitigation measures also allow for the NPS to manage to the desired conditions of parkway resources in ways that may be "above and beyond" what is required by the above-mentioned laws and policies.

A commenter requested that the general management plan expand the assessment and alternatives for the heavily used Craggy Gardens recreation area to include contact station and parking improvements. However, the general management plan already addresses this concern via the proposed configuration of management zoning at Craggy Gardens. The heavily used areas are zoned "Visitor Services." This zone allows for a wide variety of uses and facilities that primarily aim to serve visitor needs and preferences. The description of the Visitor Services zone can be found in the "Management Zones" section of chapter 2. More specifically, the Management Zone Comparison Table in this section provides descriptions of the uses, services, and facilities that can be expected in this zone. Parking needs and contact station services can be addressed in this zone. As appropriate, future, site-specific and facility-specific plans and projects can be implemented by the NPS in this zone to address visitor needs. The impact analysis of these zones (i.e., uses in the zones) is summarized in "Chapter 4: Environmental Consequences" across the parkway-wide corridor, as well as individual parkway segments and recreation areas.

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## **Rationale for Concerns Not Incorporated into the General Management Plan**

**Concern Statement:** *Some commenters had concerns with paddling restrictions, zoning for designated natural heritage areas, and other issues that may not necessarily be appropriate for incorporation into the final general management plan / environmental impact statement.*

**Correspondence Id:** 2624

**Organization:** VA DEQ Office of Environmental Impact Review

**Representative Quote:** “Place all conservation sites and associated natural heritage resources into the "Special Natural Resource Management Zone" designation as defined on page 52 of the management plan to recognize their significance.”

**Correspondence Id:** 2389

**Commenter:** Kept Private

**Representative Quote:** “I disagree with the proposal which could close done whitewater runs such as the Linville Gorge.”

**Correspondence Id:** 2529

**Organization:** American Whitewater

**Representative Quote:** “We ask that the Blue Ridge Parkway eliminate the unnecessary closures on the Linville River, Rock Castle Creek, Otter Creek, and the Boone Fork River through the management planning process. Lifting these closures will have virtually no effect on actual paddling use levels on any of these streams, but will send a message that the Park Service supports sustainable river recreation, and does not view paddling river as a criminal act.”

**NPS Response:**

A large number of comments included suggestions and recommendations that, while having merit and warranting consideration, are not appropriate for incorporation into the final general management plan / environmental impact statement for a variety of objective reasons. The above representative quotes are examples of concerns that are not appropriate for inclusion in the document.

First, designated natural heritage areas were intentionally not zoned with the “Special National Resources” zone because this would identify their exact locations in the GMP and on the parkway maps. Due to the concern and real threat of poaching of rare species, this approach was not taken. National Park Service park staff is aware of the natural heritage area locations, resources, and conditions and factor the designations into their management of the sensitive resources that inhabit the areas.

As for concerns with particular paddling restrictions, the National Park Service has determined it necessary to maintain the existing boating regulations due to serious visitor safety concerns. For example, several fatalities have resulted from visitors being swept over Linville Falls, and such activity poses an unacceptable risk to potential rescuers. Furthermore, boats are restricted from many parkway waters due to conflicts with other public enjoyment values and lack of adequate launching areas. Many human-made water features were created as an element of a cultural landscape and not for the purpose of providing boating opportunities.

## **Comments Outside the Scope of the General Management Plan**

**Concern Statement:** *The draft general management plan / environmental impact statement does not provide enough detail on proposed site-specific changes, agency coordination, and the analysis of environmental consequences from the proposed actions.*

**Correspondence Id:** 2623

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “Page 90 of the DEIS includes information on Water Resources. EPA recommends stringent water quality BMPs, including geo-tech fabric, coconut fiber matting, and potentially Polyacrylamide (PAM) near steep slopes to help prevent off-site soil erosion and sedimentation into creeks, rivers and other water bodies.”

**Correspondence Id: 2623**

**Organization:** U.S. Environmental Protection Agency

**Representative Quote:** “Pages 296 and page 314 -Cumulative impacts discussions are very vague. EPA recommends the FEIS should address all other activities in more detail and how these activities relate to the proposed project.”

**Correspondence Id: 2624**

**Organization:** VA DEQ Office of Environmental Impact Review

**Representative Quote:** “1(c) Agency Recommendations. The following recommendations may be useful in planning site-specific projects. In general, DEQ recommends that stream and wetland impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts to wetlands and waterways when planning for land-disturbing activities, DEQ recommends the following practices:

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable.
- Preserve the top 12 inches of material removed from wetlands for use as wetland seed and root-stock in the excavated area.
- Design erosion and sedimentation controls in accordance with the most current edition of the Virginia Erosion and Sediment Control Handbook. These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to state waters. The controls should remain in place until the area is stabilized.
- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub or forested). The applicant should take all appropriate measures to promote revegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary

disturbance of each wetland area instead of waiting until the entire project has been completed.”

**Correspondence Id: 2624**

**Organization:** VA DEQ Office of Environmental Impact Review

**Representative Quote:** “. . . if any portion of future projects involve any encroachments channelward of ordinary high water along natural rivers and streams above the fall line or mean low water below the fall line, a permit may be required from VMRC (Virginia Marine Resources Commission).”

**Correspondence Id: 2624**

**Organization:** VA DEQ Office of Environmental Impact Review

**Representative Quote:** “VDH ODW states that plans requiring changes to potable water facilities and/or water supply must be coordinated with the local VDH ODW Field Office for review and approval.”

**NPS Response:**

Given the broad scope and large geographic scale of a general management plan, the National Park Service considers the level and detail of proposed actions, impact analyses, mitigation measures, and agency coordination needs in the final general management plan / environmental impact statement appropriate. This general management plan is a long-range, park-wide document. If and when specific actions and implementation plans identified in the general management plan are implemented throughout the park in the future, the National Park Service will do further environmental analysis, regulatory compliance, and agency coordination, as necessary. At that time, a much more site-specific, detailed level of description and analysis will be provided. This is when the level of analysis noted in some public comments will be addressed. The introduction to the “Mitigation Measures Common to the Action Alternatives” section in chapter 2 outlines this commitment.

# APPENDIXES, REFERENCES, PREPARERS AND CONTRIBUTORS, INDEX



Otter Creek



The Parkway





# APPENDIX A—LEGISLATION

## XI. LEGISLATION RELATING TO NATIONAL PARKWAYS<sup>1</sup>

### 1. Blue Ridge Parkway<sup>2</sup>

	Page
Administration and maintenance of the parkway by the National Park Service.....	183
Cherokee Indian Reservation lands, authorizing acquisition by exchange for a parkway right-of-way.....	184
Amending Act of June 30, 1936, providing for administration and maintenance of the parkway.....	185
Cherokee Indian Reservation lands, authorizing conveyance thereof to North Carolina for parkway right-of-way purposes; authorizing grant of Great Smoky Mountains National Park lands to the Indians.....	186

An Act To provide for the administration and maintenance of the Blue Ridge Parkway, in the States of Virginia and North Carolina, by the Secretary of the Interior, and for other purposes, approved June 30, 1936 (49 Stat. 2041) <sup>3</sup>

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

That hereafter all lands and easements conveyed or to be conveyed to the United States by the States of Virginia and North Carolina for the right-of-way for the projected parkway between the Shenandoah and Great Smoky Mountains National Parks, together with sites acquired or to be acquired for recreational areas in connection therewith, and a right-of-way for said parkway of a width sufficient to include the highway and all bridges, ditches, cuts, and fills appurtenant thereto, but not exceeding a maximum of two hundred feet through Government-owned lands as designated on maps heretofore or hereafter approved by the Secretary of the Interior, shall be known as the Blue Ridge Parkway and shall be administered and maintained by the Secretary of the Interior through the National Park Service, subject to the provisions of the Act of Congress approved August 25, 1916 (39 Stat. 535), entitled "An Act to establish a National Park Service, and for other purposes", the provisions of which Act, as amended and supplemented, are hereby extended over and made applicable to said parkway: *Provided*, That the Secretary of Agriculture is hereby authorized, with the concurrence of the Secretary of the Interior, to connect with the parkway such roads and trails as may be necessary for the protection, administration, or utilization of adjacent and nearby national

Blue Ridge Parkway, Va., and N. C. Projected parkway between the Shenandoah and Great Smoky Mountains National Parks, etc., to be known as.

Administration, etc., by National Park Service.

Roads and trails.

<sup>1</sup> For general statutory provisions relating to national parkways, see page 15.  
<sup>2</sup> Construction was commenced under authority of Title II of the National Industrial Recovery Act of June 16, 1933 (48 Stat. 195). See Attorney General's Opinion of June 20, 1935, to the Secretary of the Interior.  
<sup>3</sup> Amended by Act of June 8, 1940 (54 Stat. 249), p. 185.

Coordination of recreational development by Forest Service and National Park Service.

forests and the resources thereof: *And provided further*, That the Forest Service and the National Park Service shall, insofar as practicable, coordinate and correlate such recreational development as each may plan, construct, or permit to be constructed, on lands within their respective jurisdictions which, by mutual agreement, should be given special treatment for recreational purposes. (16 U.S.C. sec. 460a-2.)

**An Act To authorize the exchange of certain lands within the Great Smoky Mountains National Park for lands within the Cherokee Indian Reservation, North Carolina, and for other purposes, approved August 19, 1937 (50 Stat. 699)**

Great Smoky Mountains National Park, N. C.

Exchange of certain lands within, for lands within the Cherokee Indian Reservation authorized.

Conditions.

Right-of-way grant to State.

Consent of Indians to be determined by ballot.

Consent by State.

Lands transferred to Indians to be held in trust; non-taxable, etc.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

That the Secretary of the Interior is hereby authorized, under such terms and conditions as he may deem proper, to exchange a tract of land of approximately one thousand two hundred and two acres, near Smokemont, North Carolina, known as the Towstring tract and forming a part of the Cherokee Indian Reservation, for three tracts of land, totaling approximately one thousand five hundred and forty-seven acres, in the vicinity of Ravensford, North Carolina, known as the Boundary Tree, Ravensford, and Tight Run tracts and forming a part of the Great Smoky Mountains National Park, conditioned upon the consent of the Eastern Band of Cherokee Indians to this exchange and to the acquisition by the State of North Carolina of a right-of-way, which shall vary in width between two hundred feet and eight hundred feet, for the Blue Ridge Parkway across the said reservation, and further conditioned upon payment to the said Cherokee Indians by the said State of North Carolina of such compensation as shall have been determined by the said Secretary as just and reasonable for the said right-of-way. When the foregoing conditions have been complied with, the Secretary of the Interior is hereby further authorized to grant to the State of North Carolina a right-of-way as hereinbefore provided for.

SEC. 2. The consent of the said Cherokee Indians to any proposed exchange and the acquisition of a right-of-way by the State of North Carolina as provided for herein shall be expressed by secret ballot in a general election, in which a majority vote in favor thereof. Such election to be arranged and supervised by the tribal council within sixty days after the passage of this Act, and the results of such election shall be final.

SEC. 3. No exchange shall be consummated pursuant to the provisions of this Act unless and until the consent of the State of North Carolina is first had and obtained thereto as indicated by an Act of its legislature.

SEC. 4. Upon the consummation of the exchange made pursuant to the provisions of this Act, the lands transferred to the Indians shall be held in trust by the United States

## XI. NATIONAL PARKWAYS — BLUE RIDGE

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for the said Eastern Band of Cherokee Indians and shall be nontaxable and nonalienable the same as the balance of the Indian land of the aforesaid reservation, and the lands transferred to the United States for park purposes shall become and be a part of the Great Smoky Mountains National Park and shall be subject to the provisions of the Act of Congress approved August 25, 1916 (39 Stat. 535), as amended: *Provided*, That should any of the exchanged area or parkway right-of-way herein dealt with cease to be used for park or parkway purposes, the title thereto shall revert to its status prior to the exchange.

Acquisition by  
United States  
for park pur-  
poses.  
16 U.S.C. sec. 1.

Reversionary  
provision.

**An Act To amend the Act of June 30, 1936 (49 Stat. 2041), providing for the administration and maintenance of the Blue Ridge Parkway, in the States of Virginia and North Carolina, by the Secretary of the Interior, and for other purposes, approved June 8, 1940 (54 Stat. 249)**

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Act entitled "An Act to provide for the administration and maintenance of the Blue Ridge Parkway, in the States of Virginia and North Carolina, by the Secretary of the Interior, and for other purposes", approved June 30, 1936 (49 Stat. 2041), be amended to read as follows:

Blue Ridge  
Parkway, Va.  
and N. C.

"That all lands and easements heretofore or hereafter conveyed to the United States by the States of Virginia and North Carolina for the right-of-way for the projected parkway between the Shenandoah and Great Smoky Mountains National Parks, together with sites acquired or to be acquired for recreational areas in connection therewith, and a right-of-way for said parkway of a width sufficient to include the highway and all bridges, ditches, cuts, and fills appurtenant thereto, but not exceeding a maximum of two hundred feet through Government-owned lands (except that where small parcels of Government-owned lands would otherwise be isolated, or where topographic conditions or scenic requirements are such that bridges, ditches, cuts, fills, parking overlooks, landscape development, recreational and other facilities requisite to public use of said parkway could not reasonably be confined to a width of two hundred feet, the said maximum may be increased to such width as may be necessary, with the written approval of the department or agency having jurisdiction over such lands) as designated on maps heretofore or hereafter approved by the Secretary of the Interior, shall be known as the Blue Ridge Parkway and shall be administered and maintained by the Secretary of the Interior through the National Park Service, subject to the provisions of the Act of Congress approved August 25, 1916 (39 Stat. 535), entitled 'An Act to establish a National Park Service, and for other purposes', the provisions of which Act, as amended and supplemented, are hereby extended over and made applicable to said parkway: *Provided*, That the Secretary of

Projected park-  
way between  
Shenandoah and  
Great Smoky  
Mountains Na-  
tional Parks to  
be known as.

Administration,  
etc.

16 U.S.C. secs.  
1-4.

*Provisos.*

Roads and trails. Agriculture is hereby authorized, with the concurrence of the Secretary of the Interior, to connect with the parkway such roads and trails as may be necessary for the protection, administration, or utilization of adjacent and nearby national forests and the resources thereof: *And Provided further*, That the Forest Service and the National Park Service shall, insofar as practicable, coordinate and correlate such recreational development as each may plan, construct, or permit to be constructed, on lands within their respective jurisdictions which, by mutual agreement, should be given special treatment for recreational purposes. (16 U.S.C. sec. 460a-2.)

Coordination of recreational development.

Issuance of revocable licenses for rights-of-way. "SEC. 2. In the administration of the Blue Ridge Parkway, the Secretary of the Interior may issue revocable licenses or permits for rights-of-way over, across, and upon parkway lands, or for the use of parkway lands by the owners or lessees of adjacent lands, for such purposes and under such nondiscriminatory terms, regulations, and conditions as he may determine to be not inconsistent with the use of such lands for parkway purposes. (16 U.S.C. sec. 460a-3.)

Acceptance by U. S. of lands, etc., for Blue Ridge or Natchez Trace Parkways. "SEC. 3. The Secretary of the Interior is hereby authorized, in his discretion, to approve and accept, on behalf of the United States, title to any lands and interests in land heretofore or hereafter conveyed to the United States for the purposes of the Blue Ridge or the Natchez Trace Parkways, or for recreational areas in connection therewith." (16 U.S.C. sec. 460a-1.)

**An Act To authorize the Secretary of the Interior to convey to the State of North Carolina for use in connection with the Blue Ridge Parkway certain land within the Cherokee Indian Reservation in the State of North Carolina, approved June 11, 1940 (54 Stat. 299)**

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

Blue Ridge Parkway, N. C. That the Secretary of the Interior is authorized and directed to convey to the State of North Carolina for use as a right-of-way in connection with the Blue Ridge Parkway in the State of North Carolina all right, title, and interest of the United States and the Eastern Band of Cherokee Indians in such land and the timber thereon, to be determined as hereinafter provided, within the Cherokee Indian Reservation in the State of North Carolina as may be necessary for the construction and maintenance of such parkway over the following course: Beginning at a point in State Highway Numbered 293 near Soco Gap and extending to a junction with State Highway Numbered 107, near the mouth of the Ravens Fork of the Oconoluftee River by way of the following approximate controls: Leaving Soco Gap and following the east and northerly slopes of Soco and Bunches Bald ridge and crossing through Docks Gap to the south and west side of Soco and Bunches Bald; thence crossing Lickstone Ridge and entering Bunches Gap from the south;

Conveyance of land to State of N. C., authorized.

Description.

## XI. NATIONAL PARKWAYS — BLUE RIDGE

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thence from Bunches Gap, following the south slopes of the main ridge, crossing Jenkins Divide ridge and entering Big Witch Gap from the southeast; thence leaving Big Witch Gap in a northwesterly direction and keeping on the northerly and westerly slopes of the main ridge, but crossing the various spur ridges circling around the heads of Mingo Creek and Sherrills Cove, and around the north end of the ridge lying immediately northeast of the Ravensford Mill site, crossing the Oconoluftee River to the junction with State Highway Numbered 107, previously referred to, and in addition, starting in a northeasterly direction from Bunches Gap passing about one-half mile north of Soco Bald; thence turning north and intersecting the boundary between the Qualla Indian Reservation and the Great Smoky Mountains National Park at a point approximately one mile northeast of Bunches Gap.

SEC. 2. Before making such conveyance, the Secretary of the Interior shall have the lands along such course surveyed and shall determine the exact location and boundaries of the land to be conveyed for use as such right-of-way, which shall not exceed one hundred and twenty-five acres per mile. The deed of conveyance for such land shall contain an accurate description of the location and boundaries of such land in order that the interests of the United States and the Eastern Band of Cherokee Indians may be properly protected.

SEC. 3. In consideration of conveyance, the State of North Carolina shall pay to the United States the sum of \$40,000 or \$30 per acre for the lands embraced in the right-of-way described in section 1, whichever sum is the largest, which shall be deposited in the Treasury to the credit of the Eastern Band of Cherokee Indians and held in trust by the United States for the Eastern Band of Cherokee Indians. It is understood and agreed that the State of North Carolina shall build without further payment for right-of-way, and without expense to the United States or the Cherokee Indians, a suitable State highway between Soco Gap and Cherokee Village, subject to the same laws, rules and regulations applicable to all State highways of North Carolina.

SEC. 4. The Secretary of the Interior is hereby authorized, in his discretion, to grant to the Eastern Band of Cherokee Indians the beneficial interest in any lands selected by the council of said band within the Boundary Tree tract, containing approximately eight hundred and eighty-four acres; and the said Secretary is hereby directed to exclude from the Great Smoky Mountains National Park any lands so selected and granted. Prior to the consummation of any such grant, payment shall be made for all lands included therein by the transfer of a sum equal to the fair market value of such lands, as determined by the Secretary of the Interior, from any funds in the United States Treasury to the credit of said band, including funds made avail-

Survey before  
conveyance.

Deed of con-  
veyance.

Payment by  
State to U. S.

Deposit.

Construction of  
State highway;  
location.

Eastern Band  
of Cherokee  
Indians.

Granting to, of  
interest in des-  
ignated lands,  
authorized.

Payment by  
transfer of  
funds.

## XI. NATIONAL PARKWAYS — BLUE RIDGE

Availability of transferred funds.

Inclusion of acquired lands in reservation.

able under section 3 hereof, to the credit of the fund "National Park Service, donations", which transfer the Secretary of the Treasury is hereby authorized to make upon request by the council of said band approved by the Secretary of the Interior. Funds so transferred shall be available for national park and monument uses, including the acquisition of lands for inclusion in the Great Smoky Mountains National Park. All lands purchased or otherwise acquired for the Eastern Band of Cherokee Indians under authority contained in this Act shall constitute a part of the Cherokee Indian Reservation in North Carolina, shall be held by the United States in trust for said band and shall be nontaxable, nonalienable to the same extent as other lands within said reservation.

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PUBLIC LAW 87-76—JUNE 30, 1961

[75 STAT.]

## Public Law 87-76

## AN ACT

June 30, 1961  
[H. R. 5765]

To authorize the purchase and exchange of land and interests therein on the Blue Ridge and Natchez Trace Parkways.

Blue Ridge and  
Natchez Trace  
Parkways.  
Land acquisition.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That, in order to consolidate, on the Blue Ridge Parkway and the Natchez Trace Parkway, the land forming each such parkway, to adjust ownership lines, and to eliminate hazardous crossings of and accesses to these parkways, the Secretary of the Interior is authorized to acquire, by purchase or exchange, land and interests in land contiguous to the parkways. In consummating exchanges under this Act, the Secretary may transfer parkway land, interests therein, and easements: *Provided*, That the property rights so exchanged shall be approximately equal in value.

Approved June 30, 1961.





## APPENDIX B—CONSULTATION LETTERS



### United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Asheville Field Office  
160 Zillicoa Street  
Asheville, North Carolina 28801

July 10, 2008

Ms. Suzette Molling  
National Park Service  
Ridge Parkway  
Hemphill Knob Road  
Asheville, North Carolina 28803

Ms. Molling:

Subject: Scoping for the Environmental Impact Statement for the Blue Ridge Parkway's General Management Plan

We received a letter from Superintendent Philip A. Francis, Jr., dated June 2, 2008, in which he requested our comments on the subject project. We previously provided comments on this project in a letter dated January 17, 2002, and on April 14, 2008 (via a form provided with your letter on the Preliminary Alternative). The following comments are provided in accordance with the provisions of the National Environmental Policy Act; the Migratory Bird Treaty Act (16 U.S.C. 703-711); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543). Please note that our comments are relative to the portion of the Blue Ridge Parkway (Parkway) that occurs in North Carolina. Additional comments should be submitted from our Southwest Virginia Field Office in Abingdon, Virginia.

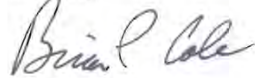
According to Mr. Francis's letter, the National Park Service is developing a General Management Plan for the Parkway in North Carolina and Virginia. The plan will be designed to provide a long-term vision and overall management direction for the Parkway.

Mr. Francis's letter included a list of rare species (with their federal and state status) that are believed to occur on Parkway land and asked that we provide comments on the accuracy of the list. In general, the list appears complete; however, the "State Status" is excluded for all the North Carolina species (e.g., Gray's lily = NC Threatened, brook floater = NC Endangered). Also, based on our records, it appears that some species are erroneously listed as occurring on Parkway land (though some are close to the boundary; e.g., dwarf-flowered heartleaf, Virginia spiraea). We recommend that you review our website; it provides a list of federally endangered

and threatened species and federal species of concern by the county in which they occur (<http://www.fws.gov/nc-es/es/countyfr.html>).

In any future correspondence pertaining to this matter, please reference our **Log Number 4-2-02-108**. Questions regarding our comments should be directed to Mr. Allen Ratzlaff of our staff at 828/258-3939, Ext. 229.

Sincerely,



Brian P. Cole  
Field Supervisor

cc:

Mr. David McHenry, Mountain Region Reviewer, North Carolina Wildlife Resources Commission, 20830 Great Smoky Mtn. Expressway, Waynesville, NC 28786



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
6669 Short Lane  
Gloucester, VA 23061



August 8, 2008

Mr. Phillip A. Francis, Jr.  
Superintendent  
U.S. Department of Interior  
National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

Attn: Ms. Suzette Molling

Re: Blue Ridge Parkway, General  
Management Plan/Environmental  
Impact Statement, Project # 2008-  
TA-0535, Blue Ridge Parkway,  
Virginia

Dear Mr. Francis:

The U.S. Fish and Wildlife Service (Service) received your letter on June 6, 2008 regarding your General Management Plan (GMP) for the Blue Ridge Parkway in Virginia and North Carolina. You asked that we review your species table for accuracy and thoroughness of information for federally listed species that occur within the Virginia portion of the Parkway. Attached are lists of species with Federal status and species of concern that have been documented or may occur in the counties the Blue Ridge Parkway transects. These lists were prepared by this office and are based on information obtained from previous surveys for rare and endangered species.

We have reviewed your table that lists species of special status in the Blue Ridge Parkway. Comments on the table are provided below.

The Brown pelican (*Pelecanus occidentalis*) is proposed for delisting. It is also a coastal species and is unlikely to occur in the same counties as the parkway.

The Service does not have any documented records of the following species in Virginia: Kirtland's warbler (*Dendroica kirtlandii*), Dwarf-flowered heartleaf (*Hexastylis naniflora*), Heller's blazingstar (*Liatris helleri*), and Spreading avens (*Geum radiatum*).

and threatened species and federal species of concern by the county in which they occur (<http://www.fws.gov/nc-es/es/countyfr.html>).

In any future correspondence pertaining to this matter, please reference our **Log Number 4-2-02-108**. Questions regarding our comments should be directed to Mr. Allen Ratzlaff of our staff at 828/258-3939, Ext. 229.

Sincerely,



Brian P. Cole  
Field Supervisor

Mr. David McHenry, Mountain Region Reviewer, North Carolina Wildlife Resources  
Commission, 20830 Great Smoky Mtn. Expressway, Waynesville, NC 28786

**AMHERST COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
Pleurobema collina	James spiny mussel	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata	Smooth coneflower	LE
Isotria medeoloides <sup>1</sup>	Small whorled pogonia	LT
<b>Protected by the Bald and Golden Eagle Protection Act</b>		
Haliaeetus leucocephalus	Bald eagle	G5
<b>Species of Concern (No official Federal status)</b>		
<u>VASCULAR PLANTS</u>		
Iliamna remota	Kankakee globe mallow	G1Q

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

**AUGUSTA COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
Antrolana lira	Madison Cave isopod	LT
<u>MAMMALS</u>		
Corynorhinus townsendii virginianus <sup>1</sup>	Virginia big-eared bat	LE
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
Arabis serotina	Shale barren rock cress	LE
Helenium virginicum	Virginia sneezeweed	LT
Helonias bullata	Swamp pink	LT
Platanthera leucophaea	Eastern prairie fringed orchid	LT
Scirpus ancistrochaetus	Northeastern bulrush	LE
<b>Species of Concern (No official Federal status)</b>		
<u>BIRDS</u>		
Thryomanes bewickii altus	Appalachian Bewick's Wren	G5T2Q
<u>FISH</u>		
Notropis semperasper	Roughhead shiner	G2G3
<u>INVERTEBRATES</u>		
Apochthonius coecus	A cave pseudoscorpion	G1G2
Kleptochthonius sp. 1	A cave pseudoscorpion	G1
Pseudosinella granda	A cave springtail	G1G2
Pyrgus centaureae wyandot	Appalachian grizzled skipper	G5T1T2
Striaria sp. 1	A millipede	G1
Stygobromus sp. 7	Sherando spinosoid amphipod	G2
Stygobromus stegerorum	Madison cave amphipod	G1
<u>VASCULAR PLANTS</u>		
Carex roanensis	Roan Mountain sedge	G2
Isoetes virginicia	Virginia quillwort	G1
Paxistima canbyi <sup>1</sup>	Canby's mountain-lover	G2
Phlox buckleyi	Sword-leaved phlox	G2
Potamogeton tennesseensis	Tennessee pondweed	G2
Trillium pusillum var. virginianum	Virginia least trillium	G3T2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

September 28, 2007

Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

**BOTETOURT COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
Antrolana lira <sup>1</sup>	Madison Cave isopod	LT
Pleurobema collina	James spinymussel	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>2</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata	Smooth coneflower	LE
Isotria medeoloides <sup>2</sup>	Small whorled pogonia	LT
Scirpus ancistrochaetus <sup>2</sup>	Northeastern bulrush	LE
<b>Species of Concern (No official Federal status)</b>		
<u>AMPHIBIANS</u>		
Plethodon hubrichti	Peaks of Otter salamander	G2
<u>BIRDS</u>		
Thryomanes bewickii altus	Appalachian Bewick's wren	G5T2Q
<u>FISH</u>		
Notropis semperasper	Roughhead shiner	G2G3
Noturus gilberti	Orangefin madtom	G2
<u>INVERTEBRATES</u>		
Arrhopalites caedus	A cave springtail	G1G2
Elliptio lanceolata	Yellow lance	G2G3
Fusconaia masoni	Atlantic pigtoe	G2
Phyciodes batesii batesii	Tawny Crescent	G4T1
Stygobromus fergusonii	Montgomery County cave amphipod	G2G3
<u>VASCULAR PLANTS</u>		
Buckleya distichophylla	Piratebush	G2
Clematis addisonii	Addison's leatherflower	G2
Iliamna remota	Kankakee globe-mallow	G1Q
Paxistima canbyi <sup>2</sup>	Canby's mountain-lover	G2

<sup>1</sup>This species has not been documented in this county, but may occur in this county.

<sup>2</sup>This species has been documented in an adjacent county and may occur in this county.

September 28, 2007

Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

**BEDFORD COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>FISH</u>		
Percina rex	Roanoke logperch	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata <sup>1</sup>	Smooth coneflower	LE
Isotria medeoloides	Small whorled pogonia	LT
<b>Species of Concern (No official Federal status)</b>		
<u>AMPHIBIANS</u>		
Plethodon hubrichti	Peaks of Otter salamander	G2
<u>INVERTEBRATES</u>		
Fusconaia masoni	Atlantic pigtoe	G2
<u>VASCULAR PLANTS</u>		
Iliamna remota	Kankakee globe-mallow	G1
Phlox buckleyi	Sword-leaved phlox	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

September 16, 2005  
 Prepared by U.S. Fish and Wildlife Service, Virginia Field Office



**CARROLL COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
Pleurobema collina <sup>1</sup>	James spiny mussel	LE
<u>INSECTS</u>		
Neonympha mitchelli mitchelli <sup>1</sup>	Mitchell's satyr	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>REPTILES</u>		
Clemmys muhlenbergii	Bog turtle	LT(S/A)
<u>VASCULAR PLANTS</u>		
Echinacea laevigata <sup>1</sup>	Smooth coneflower	LE
Helianthus schweinitzii <sup>1</sup>	Schweinitz's sunflower	LE
Spiraea virginiana	Virginia spiraea	LT

**Species of Concern (No official Federal status)**

<u>VASCULAR PLANTS</u>		
Buckleya distichophylla	Piratebush	G2
Saxifraga caroliniana	Carolina saxifrage	G2
Trillium pusillum var. virginianum <sup>1</sup>	Virginia least trillium	G3T2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

**FLOYD COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
Pleurobema collina <sup>1</sup>	James spinymussel	LE
<u>INSECTS</u>		
Neonympha mitchelli mitchelli	Mitchell's satyr	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>REPTILES</u>		
Clemmys muhlenbergii	Bog turtle	LT(S/A)
<u>VASCULAR PLANTS</u>		
Echinacea laevigata <sup>1</sup>	Smooth coneflower	LE
<b>Species of Concern (No official Federal status)</b>		
<u>FISH</u>		
Noturus gilberti	Orangefin madtom	G2
<u>INVERTEBRATES</u>		
Escaryus cryptorobius	Montane centipede	G2
Puto kosztarabi	Buffalo Mountain mealybug	G1
Sigmoria whiteheadi	Laurel Creek Xystodesmid millipede	G1
<u>VASCULAR PLANTS</u>		
Buckleya distichophylla <sup>1</sup>	Piratebush	G2
Phlox buckleyi	Sword-leaved phlox	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

August 8, 2005  
 Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

**FRANKLIN COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>FISH</u>		
Percina rox	Roanoke logperch	LE
<u>INVERTEBRATES</u>		
Alasmidonta heterodon <sup>1</sup>	Dwarf wedgemussel	LE
Neonympha mitchelli mitchelli <sup>1</sup>	Mitchell's satyr	LE
Pleurobema collina <sup>1</sup>	James spinymussel	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata	Smooth coneflower	LE
Isotria medeoloides <sup>1</sup>	Small whorled pogonia	LT
<b>Species of Concern (No official Federal status)</b>		
<u>FISH</u>		
Noturus gilberti	Orangefin madtom	G2
<u>INVERTEBRATES</u>		
Acroneuria kosztarabi	Virginia stonefly	G1
Fusconaia masoni	Atlantic pigtoe	G2
<u>NON-VASCULAR PLANTS</u>		
Orthotrichum keeverae	Keever's bristle-moss	G2
<u>VASCULAR PLANTS</u>		
Pycnanthemum torrei	Torrey's mountain-mint	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

**ROANOKE COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>FISH</u>		
Percina rex	Roanoke logperch	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata	Smooth coneflower	LE
Isotria medeoloides <sup>1</sup>	Small whorled pogonia	LT

**Species of Concern (No official Federal status)**

<u>FISH</u>		
Noturus gilberti	Orangefin madtom	G2
<u>INVERTEBRATES</u>		
Pseudanophthalmus pusio	A cave beetle	G2G3
Pseudosinella bona	A cave springtail	G1G2
Erynnis persius persius	Persius duskywing	G5T1T3
<u>VASCULAR PLANTS</u>		
Buckleya distichophylla	Piratebush	G2
Clematis addisonii	Addison's leatherflower	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

September 28, 2007  
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**ROCKBRIDGE COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
<i>Antrolana lira</i>	Madison Cave isopod	LT
<i>Pleurobema collina</i>	James spinymussel	LE
<u>MAMMALS</u>		
<i>Myotis sodalis</i> <sup>1</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
<i>Arabis serotina</i>	Shale barren rock cress	LE
<i>Echinacea laevigata</i> <sup>1</sup>	Smooth coneflower	LE
<i>Isotria medeoloides</i> <sup>1</sup>	Small whorled pogonia	LT
<i>Scirpus ancistrochaetus</i> <sup>1</sup>	Northeastern bulrush	LE
<b>Protected by the Bald and Golden Eagle Protection Act</b>		
<i>Haliaeetus leucocephalus</i>	Bald eagle	G5
<b>Species of Concern (No official Federal status)</b>		
<u>AMPHIBIANS</u>		
<i>Plethodon hubrichti</i>	Peaks of Otter salamander	G2
<u>FISH</u>		
<i>Notropis semperasper</i>	Roughhead shiner	G2G3
<u>INVERTEBRATES</u>		
<i>Arrhopalites pavo</i>	A cave springtail	G1G2
<i>Caecidotea bowmani</i>	Natural Bridge cave isopod	G1G2
<i>Elliptio lanceolata</i>	Yellow lance	G2G3
<i>Fusconaia masoni</i>	Atlantic pigtoe	G2
<i>Helicodiscus diadema</i>	Shaggy coil	G1
<i>Helicodiscus lirellus</i>	Rubble coil	G1
<i>Islandiana muma</i>	A cave spider	G1G2
<i>Procotyla typhlops</i>	A ground water planarian	G1G2
<i>Pseudanophthalmus pontis</i>	Natural Bridge cave beetle	G1
<i>Pseudanophthalmus</i> sp. 11	A cave beetle	G1
<i>Pyrgus centaureae wyandot</i>	Appalachian grizzled skipper	G5T1T2
<i>Sphalloplana virginiana</i>	Rockbridge County cave planarian	G1

August 1, 2008

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Stygobromus baroodyi                      Rockbridge County cave amphipod    G2G3

VASCULAR PLANTS

Clematis addisonii	Addison's leatherflower	G2
Clematis viticaulis	Millboro leatherflower	G2
Paxistima canbyi <sup>1</sup>	Canby's mountain-lover	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

August 1, 2008  
Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

**NELSON COUNTY, VIRGINIA**  
**Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>INVERTEBRATES</u>		
Pleurobema collina <sup>1</sup>	James spiny mussel	LE
<u>MAMMALS</u>		
Myotis sodalis <sup>1</sup>	Indiana bat	LE
<u>VASCULAR PLANTS</u>		
Echinacea laevigata <sup>1</sup>	Smooth coneflower	LE
Helonium virginicum <sup>1</sup>	Virginia sneezeweed	LT
Helonias bullata	Swamp pink	LT

**Species of Concern (No official Federal status)**

<u>INVERTEBRATES</u>		
Elliptio lanceolata	Yellow lance	G2G3
Escaryus cryptorobius	Montane centipede	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

September 16, 2005  
 Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

**PATRICK COUNTY, VIRGINIA  
Federally Listed, Proposed, and Candidate Species**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>FISH</u>		
Percina rex	Roanoke logperch	LE
<u>INSECTS</u>		
Neonympha mitchelli mitchelli <sup>1</sup>	Mitchell's satyr	LE
<u>INVERTEBRATES</u>		
Pleurobema collina	James spinymussel	LE
<u>REPTILES</u>		
Clemmys muhlenbergii	Bog turtle	LT(S/A)
<u>VASCULAR PLANTS</u>		
Cardamine micranthera	Small-anthered bittercress	LE

**Species of Concern (No official Federal status)**

<u>FISH</u>		
Noturus gilberti	Orangefin madtom	G2

<sup>1</sup>This species has been documented in an adjacent county and may occur in this county.

August 8, 2005  
Prepared by U.S. Fish and Wildlife Service, Virginia Field Office



L. Preston Bryant, Jr.  
Secretary of Natural Resources



Joseph H. Maroon  
Director

**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

217 Governor Street  
Richmond, Virginia 23219-2010  
(804) 786-7951 FAX (804) 371-2674

July 1, 2008

Philip A. Francis, Jr.  
Superintendent  
National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

Re: Blue Ridge Parkway, General Management Plan/Environmental Impact Statement

Dear Mr. Francis:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, several natural heritage resources have been documented within the Virginia portion of the Blue Ridge Parkway (see attached table). DCR recommends using this information to revise the Blue Ridge Parkway Federal and State Listed Threatened and Endangered Species Table to accurately reflect the resources found in Virginia.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

In addition, our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project area.

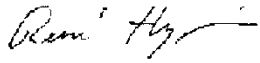
New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in this letter. Their database may be accessed from [www.dgif.virginia.gov/wildlifeinfo\\_map/index.html](http://www.dgif.virginia.gov/wildlifeinfo_map/index.html), or contact Shirl Dressler at (804) 367-6913.

*State Parks • Soil and Water Conservation • Natural Heritage • Outdoor Recreation Planning  
Chesapeake Bay Local Assistance • Dam Safety and Floodplain Management • Land Conservation*

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "S. René Hypes". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

S. René Hypes  
Project Review Coordinator

Groupname	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Fws_soc	Lastobs	Eorank	Precision	Sitename
Invertebrate Animal	Boloria selene	Silver-bordered Fritillary	G5	S2				8/9/1937	H	M	
Invertebrate Animal	Sigmaria whiteheadi	Laurel Creek Xystodesmid Millipede	G1	S1		LT	SOC	5/13/1990	E	M	
Invertebrate Animal	Phyciodes batesii batesii	Tawny Crescent	G4T1	SH			SOC	6/1/1938	H	M	
Invertebrate Animal	Stygobromus sp. 7	Sherando Spinosoid Amphipod	G2	S2			SOC	7/29/1992	B	S	HICKORY SPRING
Invertebrate Animal	Phyciodes batesii batesii	Tawny Crescent	G4T1	SH			SOC	6/1/1938	H	S	
Invertebrate Animal	Stygobromus sp. 7	Sherando Spinosoid Amphipod	G2	S2			SOC	7/16/1992	B	S	HUMPBACK MOUNTAIN
Invertebrate Animal	Hadena ectypa	A Noctuid Moth	G3G4	S2				8/9/2001	E		SHARP TOP SLOPES
Invertebrate Animal	Semionellus placidus	A Millipede	G3	S2				6/17/1947	H	M	
Invertebrate Animal	Gomphus abbreviatus	Spine-crowned Clubtail	G3G4	S2S3				5/20/1977	H	S	
Nonvascular Plant	Sphagnum quinquefarium	Five-rowed Peatmoss	G5	S2S3				7/18/1958	H	M	
Terrestrial Community	Eastern Hemlock - Hardwood Forest	Eastern Hemlock - Hardwood Forest	GNR	SNR				6/29/1992	C	S	APPLE ORCHARD MOUNTAIN
Terrestrial Community	Low-Elevation Basic Outcrop Barren	Low-Elevation Basic Outcrop Barren	GNR	SNR				6/8/1999	BC	S	HUMPBACK MOUNTAIN
Terrestrial Community	Mountain / Piedmont Acidic Seepage Swamp	Mountain / Piedmont Acidic Seepage Swamp	GNR	SNR				8/2/1987	C	S	LOVE SWAMP
Terrestrial Community	Oak / Heath Forest	Oak / Heath Forest	GNR	SNR				6/24/1999	C		THUNDER RIDGE
Terrestrial Community	Mesic / Wet-Mesic Prairie	Mesic / Wet-Mesic Prairie	GNR	SNR				9/29/2004	C		AKERS MEADOW
Terrestrial Community	Rich Cove / Slope Forest	Rich Cove / Slope Forest	GNR	SNR				8/14/2003	B		JAMES RIVER GORGE
Terrestrial Community	Montane Mixed Oak / Oak - Hickory Forest	Montane Mixed Oak / Oak - Hickory Forest	GNR	SNR				8/13/2003	C		SMART VIEW
Terrestrial Community	Northern Red Oak Forest	Northern Red Oak Forest	GNR	SNR				7/2/1999	B		APPLE ORCHARD MOUNTAIN
Terrestrial Community	Carolina Hemlock Forest	Carolina Hemlock Forest	GNR	SNR				8/19/1999	B		APPLE ORCHARD MOUNTAIN
Terrestrial Community	Montane Mixed Oak / Oak - Hickory Forest	Montane Mixed Oak / Oak - Hickory Forest	GNR	SNR				7/29/2003	B		APPLE ORCHARD MOUNTAIN
Terrestrial Community	High-Elevation Boulderfield Forest / Woodland	High-Elevation Boulderfield Forest / Woodland	GNR	SNR				7/31/2003	C		APPLE ORCHARD MOUNTAIN
Terrestrial Community	High-Elevation Seepage Swamp	High-Elevation Seepage Swamp	GNR	SNR				5/12/2004	C		APPLE ORCHARD MOUNTAIN
Terrestrial Community	Montane Mixed Oak / Oak - Hickory Forest	Montane Mixed Oak / Oak - Hickory Forest	GNR	SNR				7/15/2003	AB		HUMPBACK MOUNTAIN
Terrestrial Community	Mountain / Piedmont Basic Seepage Swamp	Mountain / Piedmont Basic Seepage Swamp	GNR	S2				7/8/2003	B		HUMPBACK MOUNTAIN
Terrestrial Community	Low-Elevation Boulderfield Forest / Woodland	Low-Elevation Boulderfield Forest / Woodland	GNR	SNR				7/15/2003	B		HUMPBACK MOUNTAIN
Vascular Plant	Solidago uliginosa var. uliginosa	Bog Goldenrod	G4G5T4T5	S2				8/29/1964	H	M	
Vascular Plant	Clematis glaucophylla	White-leaved Leatherflower	G47	SH				8/10/1949	H	M	
Vascular Plant	Carex buxbaumii	Brown Bog Sedge	G5	S2				7/23/1983	E	M	
Vascular Plant	Chelone cuthbertii	Cuthbert Turtlehead	G3	S2				8/23/1981	E	M	
Vascular Plant	Solidago uliginosa var. uliginosa	Bog Goldenrod	G4G5T4T5	S2				9/26/1968	H	M	
Vascular Plant	Leucothoe fontanesiana	Highland Dog-hobble	G5	S1S2				1997-	E	M	
Vascular Plant	Solidago uliginosa var. uliginosa	Bog Goldenrod	G4G5T4T5	S2				8/18/1967	H	M	
Vascular Plant	Platanthera grandiflora	Large Purple-fringe Orchis	G5	S1				6/24/1923	H	M	
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				1978-	H	M	
Vascular Plant	Carex conoidea	Field Sedge	G5	S1S2				6/7/1981	E	M	
Vascular Plant	Vicia americana ssp. americana	American Purple Vetch	G5T5	S1S2				6/4/1950	H	M	
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				7/1/1925	H	M	
Vascular Plant	Quercus prinoides	Dwarf Chinquapin Oak	G5	S1				7/9/1968	H	M	
Vascular Plant	Epilobium leptophyllum	Linear-leaved Willow-herb	G5	S2				9/20/1990	BC	S	DODD CREEK WETLANDS
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				1978-	H	S	
Vascular Plant	Chelone cuthbertii	Cuthbert Turtlehead	G3	S2				8/21/1991	B	S	FISHER PEAK WETLANDS
Vascular Plant	Alnus incana ssp. rugosa	Speckled Alder	G5T5	S2				5/29/1992	D	S	HUMPBACK MOUNTAIN
Vascular Plant	Chelone cuthbertii	Cuthbert Turtlehead	G3	S2				10/2/1992	BC	S	DICKS KNOB
Vascular Plant	Sanguisorba canadensis	Canada Burnet	G5	S2				1983-	E	S	WEST FORK MEADOW
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				1977-07	H	S	
Vascular Plant	Anemone canadensis	Canada Anemone	G5	S1				5/5/1982	D	S	BRP MONTEBELLO
Vascular Plant	Crataegus mollis	A Hawthorn	G5	S1				5/23/2001	D	S	
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	D	S	RT. 612 MEADOW
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	B	S	DODD CREEK WETLANDS
Vascular Plant	Euphorbia purpurea	Glade Spurge	G3	S2				6/28/2001	C	S	DODD CREEK WETLANDS
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	C	S	DODD CREEK WETLANDS
Vascular Plant	Calopogon tuberosus var. tuberosus	Tuberosus Grass-pink	G5T5	S2				6/29/2001	C	S	DODD CREEK WETLANDS
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	C	S	DAVIS MEADOW
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	D	S	WEST FORK MEADOW
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	D	S	CHESTNUT CREEK
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				6/28/2001	C	S	AKERS MEADOW
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				1978-07	H		
Vascular Plant	Lilium grayi	Gray's Lily	G3	S2				1977-07	D	S	
Vascular Plant	Vaccinium macrocarpon	Large Cranberry	G4	S2				9/10/1997	E	S	SHORTTS KNOB BOG

Natural Heritage Resources documented within the Blue Ridge Parkway

Vascular Plant	<i>Lilium grayi</i>	Gray's Lily	G3	S2				6/28/2001	C	S	NEW HAVEN
Vascular Plant	<i>Solidago uliginosa</i> var. <i>uliginosa</i>	Bog Goldenrod	G4G5T4T5	S2				8/29/1964	H	M	
Vascular Plant	<i>Houstonia canadensis</i>	Canada Bluets	G4G5	S2				10/14/1964	H	S	
Vascular Plant	<i>Muhlenbergia glomerata</i>	Marsh Muhly	G5	S2				8/11/2001	C	S	HUMPBACK MOUNTAIN
Vascular Plant	<i>Isotria medeoloides</i>	Small Whorled Pogonia	G2	S2	LT	LE		6/26/2003	D?	S	RT. 614 SLOPE
Vascular Plant	<i>Epilobium leptophyllum</i>	Linear-leaved Willow-herb	G5	S2				8/26/2003	CD	S	NEW HAVEN
Vascular Plant	<i>Goodyera repens</i> var. <i>ophioides</i>	Dwarf Rattlesnake Plantain	G5TNRQ	S2?				8/7/2003	D	S	
Vascular Plant	<i>Epilobium leptophyllum</i>	Linear-leaved Willow-herb	G5	S2				7/23/2003	B	S	FISHER PEAK WETLANDS
Vascular Plant	<i>Carex vesicaria</i>	Inflated Sedge	G5	S1S2				7/22/2003	AB	S	FISHER PEAK WETLANDS
Vascular Plant	<i>Chelone cuthbertii</i>	Cuthbert Turtlehead	G3	S2				8/28/1977	H	S	
Vascular Plant	<i>Helonias bullata</i>	Swamp-pink	G3	S2S3	LT	LE		5/10/1990	C	S	LOVE SWAMP
Vascular Plant	<i>Dalibarda repens</i>	Robin Runaway	G5	S1				7/4/1981	E	S	LINARD CREEK
Vascular Plant	<i>Dalibarda repens</i>	Robin Runaway	G5	S1				7/24/2003	B	S	LINARD CREEK
Vascular Plant	<i>Iliamna remota</i>	Kankakee Globe-mallow	G1Q	S1			SOC	7/7/1999	C	S	JAMES RIVER GORGE
Vascular Plant	<i>Euphorbia purpurea</i>	Glade Spurge	G3	S2				5/12/2004	B	S	APPLE ORCHARD MOUNTAIN
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		6/2/1992	AB	S	DODD CREEK WETLANDS
Vertebrate Animal	<i>Plethodon hubrichti</i>	Peaks of Otter Salamander	G2	S2		SC	SOC	10/13/2005	A	S	APPLE ORCHARD MOUNTAIN
Vertebrate Animal	<i>Troglodytes troglodytes</i>	Winter Wren	G5	S2B,S4N			SC	6/28/1992	E	S	APPLE ORCHARD MOUNTAIN
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		5/27/1990	C	S	DICKS KNOB
Vertebrate Animal	<i>Phenacobius teretulus</i>	Kanawha Minnow	G3G4	S2S3				6/22/1995	E	S	WEST FORK - EAST FORK CHESTNUT CREEK SCU
Vertebrate Animal	<i>Phenacobius teretulus</i>	Kanawha Minnow	G3G4	S2S3				8/14/1975	H	G	
Vertebrate Animal	<i>Desmognathus marmoratus</i>	Shovel-nosed Salamander	G4	S2		SC			ND	E	M
Vertebrate Animal	<i>Thoburnia hamiltoni</i>	Rustyside Sucker	G3	S2		SC		10/19/1984	C	M	
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		4/26/1988	H	S	
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		7/12/1991	BC	S	WEST FORK DODD CREEK WETLANDS
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		1988	H	S	CHESTNUT CREEK
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		5/16/1988	H	S	NEW HAVEN
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		6/6/1996	BC	S	PAYNE CREEK
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		5/7/1989	CD	S	BRP - MP 173.8
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		1979-	H	S	
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		5/26/1977	H	S	
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		1985	E	M	MAYBERRY CREEK
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		1961-	H	S	
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		8/11/1997	CD	S	LITTLE ROCK CASTLE BOG
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		9/10/1997	C	S	SHORTTS KNOB BOG
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		5/19/1999	C	M	WARDS GAP - PINEY CREEK WETLANDS
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	LE		9/11/1991	CD	S	MABRY MILL



COMMONWEALTH of VIRGINIA

L. Preston Bryant, Jr.  
Secretary of Natural Resources

Department of Game and Inland Fisheries  
May 30, 2008

Robert W. Duncan  
Executive Director

Park Superintendent  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC, 28803

RE: Blue Ridge Parkway  
General Management Plan  
ESSLog # 25103

Dear Park Superintendent:

We have reviewed the National Park Service's (NPS) newsletter, "Blue Ridge Parkway News", which includes the preliminary alternatives for the development of the General Management Plan (Plan) for the Blue Ridge Parkway (Parkway). Based on our review of that document and our data, we offer the following comments and recommendations. The Virginia Department of Game and Inland Fisheries (VDGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises full law enforcement and regulatory jurisdiction over those resources, inclusive of State or Federally *Endangered* or *Threatened* species, but excluding listed insects. We are a consulting agency under the U. S. Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and we provide environmental analysis of projects or permit applications coordinated through the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, the Virginia Department of Transportation, the U. S. Army Corps of Engineers, and other state or federal agencies. Our role in these procedures is to determine likely impacts upon fish and wildlife resources and habitats, and to recommend appropriate measures to avoid, reduce, or compensate for those impacts.

According to our records, the following listed wildlife species have been documented in the Parkway or within 0.5 mile of its borders: federal Threatened state Endangered bog turtle, federal Endangered Roanoke logperch, state Threatened Laurel Creek xystodesmid, state Endangered eastern tiger salamander, state Threatened peregrine falcon and state Threatened bald eagle. Managing and protecting habitats for these species is very important to ensuring their long-term survival and viability. We recommend coordination with our agency and the U.S. Fish and Wildlife Service (USFWS) to identify suitable habitats for these species and work cooperatively to protect those habitats and manage the species they support. We recommend that any projects occurring within areas identified as habitat for listed species be closely coordinated with our agency and the USFWS so that we may make recommendations to protect listed species and their habitats.

4010 WEST BROAD STREET, P.O. BOX 11104, RICHMOND, VA 23230-1104  
(804) 367-1000 (V/TDD) Equal Opportunity Employment, Programs and Facilities FAX (804) 367-0405

Park Superintendent  
May 30, 2008  
Page 2 of 3

We document 148 trout streams, both wild and stockable, in the Parkway or within 0.5 mile of its borders. We have attached a table with information about each of these streams. We recommend coordination with our agency to ensure protection of these streams and the important fisheries they support. In particular, Chestnut Creek, adjacent to the Blue Ridge Music Center at milepost 213, is a historically valuable native brook trout stream. Over time, however, the habitat in this stream has become degraded. If growth at this complex within the Parkway is expected and projects planned to occur in the area, we recommend that emphasis be placed to protect this fishery resource and protect it from further degradation. We recommend coordination with our agency to ensure the protection of this resource and are happy to help the NPS with such efforts.

Stewarts Creek Wildlife Management Area is located very nearby the Parkway borders. We recommend that any management action or project that may impact this land or the resources on it be coordinated with our agency.

In addition to the listed species and wildlife resources mentioned above, a number of species included as species of greatest conservation need in Virginia's Wildlife Action Plan are likely to occur, if suitable habitat exists, in and around the Parkway. We recommend that the Virginia Wildlife Action Plan (available through [www.bewildvirginia.gov](http://www.bewildvirginia.gov)) be reviewed to determine what threats are known to these species, what suitable habitat for these species consists of and how to best protect them and their habitats from harm. This document, in conjunction with assistance from our agency, can serve as a tool to assist the NPS in developing long-term management plans in a manner that reduces impacts upon the Commonwealth's wildlife and their habitats.

In general, we are supportive of Alternative C as outlined in the newsletter. This alternative promotes integration of the parkway and its resources to nearby economies and resources. This alternative appears to encourage partnerships and regional initiatives that intend to expand recreational opportunities within the parkway; enhance natural resource connectivity; and improve the visitor's ability to connect with, explore, and learn about the region's natural and cultural heritage. Alternative C offers long-term approaches to resource and wildlife management with an emphasis on ecosystem health and habitat improvement. We support his concept as well as the management of unique habitats located with the Parkway such as mountain wetlands, streams, and rock outcrops. These habitats may not only provide habitat for imperiled species, but also provide denning and refuge habitat for many common species.

We support the NPS's efforts to better manage the wildlife and natural resources within and surrounding the Parkway while also improving visitor access, recreational access, and safety. We recommend that the NPS manage white-tailed deer to lower populations in an attempt to reduce deer-vehicle collisions and to alleviate damage to adjacent farms and residential properties. In addition, we recommend that the Parkway install bear-proof trash containers to minimize the attraction of bears to Parkway facilities. We recommend the continuation of recreational access to water features such and lakes and streams within the parkway. We recommend that any projects or plans to naturalize recreational areas, such as Peaks of Otter Lake, Rockcastle Gorge, or Chestnut Creek, be coordinated with our agency so that we may

Park Superintendent  
May 30, 2008  
Page 3 of 3

recommend ways to allow for the continuation of safe, enjoyable access to such features for recreation. To minimize impacts upon known freshwater mussel populations, we recommend coordination with our agency if any lake or dam repairs are planned at Lake Abbot. We support a regional approach to invasive species management and recommend that the NPS consider best management practices that may reduce the introduction of invasive species or prohibit their spread within the Parkway.

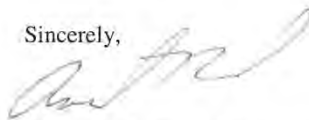
We support allowing better access to and within the park for biking, hiking, walking, and horseback riding by improving connectedness between trails in the Parkway and those in surrounding communities. We support plans to improve camping and other visitor facilities. We recommend allowing for various camping experiences. This may include secluded tent camping sites further off roads while allowing recreational vehicles in areas near the roads that are easily accessible and where noise and emissions would not impact campers looking for secluded, natural settings. It is important that the Parkway provide high-quality visitor experiences by also maintaining historic and cultural sites such as Mabry Mill Restaurant and Peaks of Otter Lodge. We recommend that the NPS continue to work with local, regional and state tourism officials to promote local communities along the Parkway as well as initiatives like the Crooked Road Trail, Mountain Heritage Trail, and the Virginia Birding and Wildlife Trail.

The following Virginia Birding and Wildlife Trail sites are located within the Parkway: Trail of the Trees, Peaks of Otter Recreation Area, Harvey's Knob Overlook, Smart View Recreation Area, Rocky Knob/Rock Castle Gorge Trails, Saddle Overlook, Lower Rock Castle Creek Trail, and Mabry Mill. We recommend coordination with our agency if any changes need to be made to the current layout of these sites or if any work is planned at these sites that may preclude use by visitors.

We recommend continued coordination with our agency regarding management of wildlife in the Parkway, access to the Parkway for fishing and wildlife watching, access from the Parkway to adjacent lands for hunting, and the avoidance and minimization of impacts upon wildlife and their habitats during specific restoration or management projects. As stated above, we are willing to assist the NPS in efforts to enhance wildlife habitats and manage wildlife resources under our jurisdiction.

Thank you for the opportunity to provide input on the development of General Management Plan for Blue Ridge Parkway. Please contact me or Amy Ewing at 804-367-6913 if we may be of further assistance.

Sincerely,



Raymond T. Fernald, Manager  
Nongame and Environmental Programs

Cc: John Fisher, DEQ





## Cold Water Streams (trout streams) known from Blue Ridge Parkway area

brook trout	brown trout	rainbow trout	NRCS_HUC	reach code	reach name	class*	type
Y			N13	04BLL-01	Big Laurel Creek	III	
Y	Y		N14	04BRF-01	Burks Fork	III	
Y			N06	04CEF-01	Chestnut Creek, EF	II	
				04CEF-01T	Chestnut Creek, EF	II	tributary
Y	Y		N07	04COK-01	Crooked Creek, EF	III	
				04COK-01T	Crooked Creek, EF	III	tributary
Y	Y		N07	04CRK-02	Crooked Creek	II	
Y			N06	04CST-01	Chestnut Creek	III	
				04CWF-01	Chestnut Creek, WF	III	
Y			N20	04DWK-01	Dodd Creek, WF	III	
				04FEP-01T	Furnace Creek, EP	II	tributary
Y			N13	04GRS-01	Grassy Creek	III	
				04GRS-01T	Grassy Creek	III	tributary
Y			N06	04HKS-01	Hanks Branch	III	
				04HKS-01T	Hanks Branch	III	tributary
Y			N20	04HWL-01	Howell Creek	II	
Y			N15	04LEF-01	Little Reed Island Ck., EF	III	
Y			N30	04LTL-01	Little Creek	II	
Y			N19	04MWC-01	Meadow Creek	III	
				04MWC-01T	Meadow Creek	III	tributary
Y	Y		N13	04OLD-01	Oldfield Creek	II	
Y			N13	04PIC-01	Pine Creek 2	III	
	Y		N19	04PIN-01	Pine Creek	III	
				04PIN-01T	Pine Creek	III	tributary
Y	Y		N13	04PNC-01	Pine Creek 1	III	
Y			N19	04PYN-01	Payne Creek	III	
Y	Y		N13	04RIC-01	Big Reed Island Creek	III	
				04RTE-01	Rte. 640 tributary		
Y	Y		N13	04SKE-01	Snake Creek	III	
Y			N19	04SLF-01	Silverleaf Branch	III	
Y			L42	05BND-01	Barnard Creek	II	
	Y	Y	L51	05BRA-01	Brogan Branch	II	
Y	Y	Y	L42	05DAN-04	Dan River	II	
Y			L08	05DRU-01	Daniels Run	III	
	Y		L08	05GCR-01	Green Creek	II	
				05GCR-01T	Green Creek	II	tributary
			L05	05GLA-01	Glade Creek	V	
	Y	Y	L05	05GLA-02	Glade Creek	III	
Y			L42	05HUN-01	Haunted Branch	II	
	Y		L01	05LKF-01	Lick Fork	II	

APPENDIXES, REFERENCES, PREPARERS AND CONTRIBUTORS, AND INDEX

				05LKF-01T	Lick Fork	II	tributary
Y		Y	L50	05LRC-01	Little Rock Castle Creek	II	
			L50	05LTT-01	Little Creek	VI	
Y			L42	05MAY-01	Mayberry Creek	III	
Y			L42	05MWP-01	Maple Swamp Branch	II	
			L14	05PGG-01	Pigg River	II	
				05PGG-01T	Pigg River	II	tributary
	Y	Y	L51	05RBC-01	Runnett Bag Creek	II	
Y		Y	L50	05RCC-01	Rock Castle Creek	I	
	Y	Y	L50	05RCC-02	Rock Castle Creek	III	
Y	Y	Y	L42	05RMC-01	Round Meadow Creek	III	
	Y	Y	L51	05RRI-01	Roaring Run	II	
Y			L08	05RUN-01	Roaring Run	II	
Y	Y	Y	L50	05SNP-01	Smith River, NP	II	
Y			L42	05SQL-01	Squall Creek	II	
				05SRE-03T	Smith River	III	tributary
Y			L42	05TGG-01	Tuggle Creek	II	
Y	Y	Y	L51	05WID-01	Widgeon Creek	II	
Y			B31	07BKE-01	Back Creek, EF	II	
Y			B31	07BKN-02	Back Creek, NF	II	
Y			B31	07BKS-01	Back Creek, SF	II	
				07LLK-01	Laurel Fork	II	
Y			B31	07MLS-02	Mills Creek	II	
Y			B31	07RON-01	Robinson Hollow	IV	
				07RON-01T	Robinson Hollow	IV	tributary
Y			B31	07TMS-01	Toms Branch	III	
				07TMS-01T	Toms Branch	III	tributary
			H01	10BAT-01	Battery Creek	VI	
Y			H02	10BBR-01	Big Branch	II	
Y			H02	10BFF-01	Bluff Creek	II	
Y			I36	10BMC-01	Big Marys Creek	II	
Y			H02	10BNC-01	Browns Creek	II	
Y			H09	10CBL-01	Campbell Creek	II	
Y		Y	I27	10CES-01	Cornelius Creek	II	
Y			I36	10CHM-01	Chimney Branch	II	
Y			H09	10DHM-01	Durham Run	II	
			H02	10DNC-01	Dancing Creek	VI	
Y			H02	10ECH-01	Enchanted Creek	II	
				10EKE-01T	Elk Creek, EF	II	tributary
			I26	10ESR-01	Ellis Creek	VI	
		Y	I27	10FAW-01	Fallingwater Creek	II	
Y			H01	10FRC-01	Falling Rock Creek	III	
Y		Y	L24	10GNS-01	Gunstock Creek	II	
Y			I36	10GRR-01	Bear Branch	II	

Y			H01	10HUO-01	Hunting Creek	II	
Y				10IGR-01	Indian Gap Run	IV	
Y			I36	10ISH-01	Irish Creek	III	
				10ISH-01T	Irish Creek	III	tributary
				10JES-01T	Jennings Creek	II	tributary
Y			H02	10LAD-01	Lady Slipper Run	II	
Y			H02	10LIF-01	Little Irish Creek	III	
Y			I36	10LIJ-01	Little Marys Creek	II	
Y			L23	10LST-01	Little Stony Creek	II	
				10LST-01T	Little Stony Creek	II	tributary
Y			I37	10LWR-01	Lowry Run	III	
Y			I36	10MBC-01	Mine Bank Creek	II	
			I27	10MFL-01	McFalls Creek	VI	
				10MIO-01T	Mill Creek	II	tributary
Y			H15	10MLL-01	Mill Creek	II	
Y			H02	10NCH-01	Nicholson Run	II	
				10NRT-01T	North Creek	II	tributary
Y			I36	10NSB-01	Nettle Spring Branch	II	
Y			I36	10NTL-01	Nettle Creek	II	
Y			H01	10OTC-01	Otter Creek	III	
				10OTC-01T	Otter Creek	III	tributary
			H01	10OTR-01	Otter Creek	VI	
Y			L24	10OVS-01	Overstreet Creek	II	
				10OVS-01T	Overstreet Creek	II	tributary
Y			H15	10PAU-01	Pauls Creek	IV	
Y			I37	10PGP-01	Pedlar Gap Run	III	
Y	Y		H02	10POL-01	Pedlar River	III	
Y			H01	10PRC-01	Peters Creek	IV	
Y			H02	10RBT-01	Roberts Creek	III	
Y			I36	10RCK-01	Rock Branch	IV	
Y			H01	10RED-01	Reed Creek	II	
Y			I37	10RES-01	Reservoir Hollow	II	
				10RES-01T	Reservoir Hollow	II	tributary
Y			H15	10RFS-01	Rockfish River, SF	II	
Y			H15	10ROD-01	Rodes Creek	II	
Y			I36	10SGC-01	Sugertree Branch	II	
Y			I36	10SRN-01	Spy Run, NF	II	
Y			L23	10STC-01	Stony Creek	II	
				10STC-01T	Stony Creek	II	tributary
Y			I36	10SUR-01	Spy Run	II	
Y			H15	10SYC-01	Stony Creek	II	
				10SYC-01T	Stony Creek	II	tributary
			H01	10TRR-01	Terrapin Creek	VI	
Y			H09	10TYN-01	Tye River, NF	II	

				10TYN-01T	Tye River, NF	II	tributary
Y			H09	10TYS-01	Tye River, SF	II	
Y			I36	10WGG-01	Wigwam Creek	II	
Y			H09	10WHB-01	White Rock Creek	II	
Y			H02	10WHL-01	Wheeler's Run	II	
				10WHL-01T	Wheeler's Run	II	tributary
Y			M03	12ARA-01	Ararat River	II	
		Y	M02	12ELK-01	Elk Spur Branch	III	
		Y	M03	12JEF-01	Johnson Creek, EF	III	
Y			M01	12LFR-01	Little Fisher Creek	I	
Y		Y	M02	12LIT-01	Little Pauls Creek	II	
		Y	M02	12LOV-01	Lovills Creek	III	
Y			M02	12PAU-01	Pauls Creek	II	
				12PAU-01T	Pauls Creek	II	tributary
				12STE-01T	Stewarts Creek	III	tributary
Y			M02	12STW-01	Stewarts Creek, NF	I	
		Y	M03	12SUN-01	Sun Run	III	
Y		Y	M03	12THO-01	Thompsons Creek	II	
Y			M02	12TUR-01	Turkey Creek	II	
		Y	M02	12WAT-01	Waterfall Branch	II	

\* Class I-IV = wild trout stream; Class V and VI = stockable trout stream



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

July 2, 2008

Ms. Suzette Molling  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Subject: State listed threatened and endangered species for NC portion of Blue Ridge Parkway

Dear Ms. Molling:

The attached table shows the state listed threatened or endangered species known to occur on the NC portion of the Blue Ridge Parkway, according to the North Carolina Natural Heritage Program.

Thank you for the opportunity to provide this information. We look forward to working with the National Park Service as you prepare a draft General Management Plan and Environmental Impact Statement.

Please do not hesitate to contact me at 919-715-7808 if you have questions or need further information.

Sincerely,

Katie Armstrong, Natural Area Specialist  
NC Natural Heritage Program

1601 Mail Service Center, Raleigh, North Carolina 27699-1601  
Phone: 919-733-4984 \ FAX: 919-715-3060 \ internet: [www.enr.state.nc.us/ENR/](http://www.enr.state.nc.us/ENR/)

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One  
North Carolina  
*Naturally*

Blue Ridge Parkway  
Federal and State Listed Threatened and Endangered Species in North Carolina  
From NC Natural Heritage Program, July 2008

Category	Scientific Name	Common Name	NC Status	US Status	NC Rank	Global Rank
Fungus	<i>Gymnodermia lineare</i>	Rock Gnome Lichen	T	E	S2	G2
Nonvascular Plant	<i>Sphagnum fuscum</i>	Brown Peatmoss	E		S1	G5
Nonvascular Plant	<i>Sphenolobopsis pearsonii</i>	A Liverwort	E	FSC	S2	G2?
Vascular Plant	<i>Calamagrostis cainii</i>	Cain's Reed Grass	E	FSC	S1	G1
Vascular Plant	<i>Dalibarda repens</i>	Robin Runaway	E		S2	G5
Vascular Plant	<i>Delphinium exaltatum</i>	Tall Larkspur	E-SC	FSC	S2	G3
Vascular Plant	<i>Filipendula rubra</i>	Queen-of-the-prairie	E		S1	G4G5
Vascular Plant	<i>Geum geniculatum</i>	Bent Avens	T	FSC	S1S2	G2
Vascular Plant	<i>Geum radiatum</i>	Spreading Avens	E-SC	E	S2	G2
Vascular Plant	<i>Glyceria nubigena</i>	Smoky Mountain Mannagrass	T	FSC	S2	G2
Vascular Plant	<i>Helonias bullata</i>	Swamp Pink	T-SC	T	S2	G3
Vascular Plant	<i>Houstonia montana</i>	Roan Mountain Bluet	F	E	S2	G2
Vascular Plant	<i>Juncus trifidus</i>	Highland Rush	E		S1	G5
Vascular Plant	<i>Liatis helleri</i>	Heller's Blazing-star	T-SC	T	S2	G2
Vascular Plant	<i>Lilium grayi</i>	Gray's Lily	T-SC	FSC	S3	G3
Vascular Plant	<i>Packera millefolium</i>	Divided-leaf Ragwort	T	FSC	S2	G2
Vascular Plant	<i>Parnassia grandifolia</i>	Large-leaved Grass-of-parnassus	T	FSC	S2	G3
Vascular Plant	<i>Rhodiola rosea</i>	Roseroot (=Sedum rosea)	E		S1	G5
Vascular Plant	<i>Rugelia nudicaulis</i> (=Cacalia rugelia)	Rugel's Ragwort	T	FSC	S3	G3
Vascular Plant	<i>Solidago spithamea</i>	Blue Ridge Goldenrod	E	T	S1	G1
Vascular Plant	<i>Thelypteris simulata</i>	Bog Fern	T		S1	G4G5
Invertebrate Animal	<i>Fumonelix orestes</i>	Engraved Covert	T		S1	G1
Vertebrate Animal	<i>Aegolius acadicus</i> pop. 1	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B, S2N	G5TNR
Vertebrate Animal	<i>Corynorhinus townsendii virginianus</i>	Virginia big-eared bat	E	E	S1	G4T2
Vertebrate Animal	<i>Falco peregrinus</i>	Peregrine Falcon	E		S1B, S2N	G4
Vertebrate Animal	<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	E	S2	G5T1
Vertebrate Animal	<i>Glyptemys muhlenbergii</i>	Bog turtle	T	T (S/A)	S2	G3
Vertebrate Animal	<i>Plethodon wehrlei</i>	Wehrle's Salamander	T		S1	G4
Vertebrate Animal	<i>Polyodon spathula</i>	Paddlefish	E	FSC	SH	G4
Vertebrate Animal	<i>Puma concolor cougar</i>	Eastern puma	E	E	SII	G5THQ
Vertebrate Animal	<i>Thyomanes bewickii altus</i>	Appalachian Bewick's Wren	E	FSC	SHB	G5T2Q



Preserving America's Heritage

Phil [initials]  
Monika [initials]  
Gary [initials] 1/6/11

December 23, 2010

Mr. Philip A. Francis, Jr.  
Superintendent  
Blue Ridge Parkway  
National Park Service  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

RE: *Blue Ridge Parkway General Management Plan and Environmental Impact Statement*

Dear Mr. Francis:

The Advisory Council on Historic Preservation (ACHP) received your letter dated November 30, 2010 regarding the NPS's renewed efforts in general management planning for the Blue Ridge Parkway. We remain interested in the NPS's efforts to meet the requirements of Section 106 of the National Historic Preservation Act and the ACHP's regulations, "Protection of Historic Properties" (36 CFR Part 800) regarding this program. As the NPS develops and evaluates alternatives for the general management plan, we urge you to continue your consultation with the appropriate State Historic Preservation Offices (SHPOs), Indian tribes, local governments, and other consulting parties with an interest in historic preservation so that their input can be considered in your identification and evaluation of historic properties in the area of potential effect and assessment of how such historic properties may be affected by the alternatives.

Remember to notify the ACHP and provide the documentation specified at 36 CFR § 800.11(e) should the NPS find that the general management plan program has the potential to adversely affect historic properties or if you propose to develop a programmatic agreement in order to phase the identification and evaluation of historic properties and assessment of effects. If you believe at any time that ACHP participation in such consultation could be helpful, please feel free to contact us. Our staff assigned to this undertaking is Katy Harris, and she can be reached by telephone at (202) 606-8520 or e-mail at [kharris@achp.gov](mailto:kharris@achp.gov).

Sincerely,

Caroline D. Hall  
Assistant Director  
Office of Federal Agency Programs  
Federal Property Management Section

ADVISORY COUNCIL ON HISTORIC PRESERVATION  
1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)







IN REPLY REFER TO

# United States Department of the Interior



National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

D18

November 30, 2010

Mr. George Blanchard, Governor  
Absentee-Shawnee Tribe of Oklahoma  
2025 South Gordon Cooper Drive  
Shawnee, Oklahoma 74801

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Governor Blanchard:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.


To date five newsletters have gone out to the public on scoping and alternatives. Four public scoping meetings were held in Virginia and North Carolina with more than 140 people in attendance. More than 600 pieces of correspondence have been received and analyzed. Comments have been received from federal and state agencies, Parkway partner organizations, and from experts in the areas of cultural resource management, transportation, and natural resources. Eight federally recognized American Indian tribes were also contacted regarding the general management plan. Parkway staff met in person with the Absentee-Shawnee Tribe, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe, Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. The Catawba Indian Nation responded in writing.

All of the comments and issues identified during public scoping, stakeholder meetings, and tribal consultation were taken into consideration in the formulation of the draft alternatives and in the selection of the preferred alternative. No controversial issues were identified relevant to cultural resources during public meetings or in the comments received.

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A draft general management plan and environmental impact statement should be available in late 2011 for your review and comment. If you have any questions, or require additional information, please contact Mr. Gary Johnson, Landscape Architect at 828-271-4779, x210; or Mr. Steven Kidd, Cultural Resource Specialist at 828-271-4779, x264.

Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Karen Kaniatobe, Tribal Historic Preservation Officer  
Absentee-Shawnee Tribe of Oklahoma  
2025 South Gordon Cooper Drive  
Shawnee, Oklahoma 74801

Chris Church, Project Manager, DSC



IN REPLY REFER TO

## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Mr. Donald W. Rodgers, Chief  
Catawba Indian Nation  
996 Avenue of the Nations  
Rock Hill, South Carolina 29730

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Chief Rodgers:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

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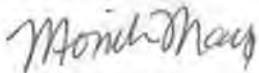
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Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Dr. Wenonah G. Haire, THPO  
Catawba Indian Nation  
Tribal Historic Preservation Office  
1536 Tom Steven Road  
Rock Hill, South Carolina 29730

Chris Church, Project Manager, DSC



IN REPLY REFER TO

## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Mr. Chadwick Smith, Principal Chief  
Cherokee Nation  
Post Office Box 948  
Tahlequah, Oklahoma 74465

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Principal Chief Smith:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

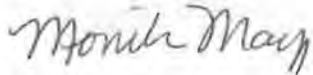
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A draft general management plan and environmental impact statement should be available in late 2011 for your review and comment. If you have any questions, or require additional information, please contact Mr. Gary Johnson, Landscape Architect at 828-271-4779, x210; or Mr. Steven Kidd, Cultural Resource Specialist at 828-271-4779, x264.

Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



IN REPLY REFER TO

## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Mr. Michell Hicks, Principal Chief  
Eastern Band of Cherokee Indians  
Qualla Boundary  
POB 455  
Cherokee, North Carolina 28719

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Chief Hicks:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

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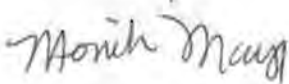
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A draft general management plan and environmental impact statement should be available in late 2011 for your review and comment. If you have any questions, or require additional information, please contact Mr. Gary Johnson, Landscape Architect at 828-271-4779, x210; or Mr. Steven Kidd, Cultural Resource Specialist at 828-271-4779, x264.

Sincerely,



for  
Philip A. Francis, Jr.  
Superintendent

cc: Mr. Russell Townsend, THPO  
Eastern Band of Cherokee Indians  
Tribal Historic Preservation Office  
Qualla Boundary  
Post Office Box 455  
Cherokee, North Carolina 28719

Chris Church, Project Manager, DSC





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## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Ms. Glenna J. Wallace, Chief  
Eastern Shawnee Tribe of Oklahoma  
Post Office Box 350  
Seneca, Missouri 64865

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Chief Wallace:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

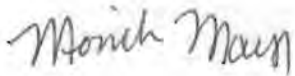
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All of the comments and issues identified during public scoping, stakeholder meetings, and tribal consultation were taken into consideration in the formulation of the draft alternatives and in the selection of the preferred alternative. No controversial issues were identified relevant to cultural resources during public meetings or in the comments received.

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A draft general management plan and environmental impact statement should be available in late 2011 for your review and comment. If you have any questions, or require additional information, please contact Mr. Gary Johnson, Landscape Architect at 828-271-4779, x210; or Mr. Steven Kidd, Cultural Resource Specialist at 828-271-4779, x264.

Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



IN REPLY REFER TO

## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Dr. Jeffrey Crow  
North Carolina Office of Archives and History  
State Historic Preservation Officer  
4610 Mail Service Center  
Raleigh, North Carolina 27699-4610

Reference: Blue Ridge Parkway, General Management Plan and Environmental Impact Statement

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Dr. Crow:

The National Park Service is continuing with general management planning for the Blue Ridge Parkway that began in December 2001. We first contacted your office in early 2002 to request your involvement at that time in accordance with stipulation VI.E of the 1995 Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

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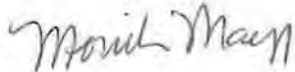
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Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



IN REPLY REFER TO

## United States Department of the Interior



National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

D18

November 30, 2010

Ms. Kathleen Kilpatrick  
State Historic Preservation Officer  
Department of Historic Resources  
2801 Kensington Avenue  
Richmond, Virginia 23221

Reference: Blue Ridge Parkway, General Management Plan and Environmental Impact Statement

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Kilpatrick:

The National Park Service is continuing with general management planning for the Blue Ridge Parkway that began in December 2001. We first contacted your office in early 2002 to request your involvement at that time in accordance with stipulation VLE of the 1995 Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

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Sincerely,



for Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



IN REPLY REFER TO

# United States Department of the Interior



National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

D18

November 30, 2010

Mr. George Wickliffe, Chief  
United Keetoowah Band of Cherokee Indians  
Post Office Box  
Tahlequah, Oklahoma 74465

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Chief Wickliffe:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

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Sincerely,

*Philip A. Francis, Jr.*

for  
Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC





IN REPLY REFER TO

## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Reid Nelson, Director  
Office of Federal Agency Programs  
Advisory Council on Historic Preservation  
1100 Pennsylvania Avenue, NW, #803  
Washington, D.C. 20004

Reference: Blue Ridge Parkway, General Management Plan and Environmental Impact Statement

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Mr. Nelson:

The National Park Service is continuing with general management planning for the Blue Ridge Parkway that began in December 2001. We first contacted your office in early 2002 to request your involvement at that time in accordance with stipulation VI.E of the 1995 Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

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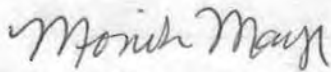
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Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



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## United States Department of the Interior

National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803



D18

November 30, 2010

Mr. Ron Sparkman, Chairman  
Shawnee Tribe  
Post Office Box 189  
Miami, Oklahoma 74355

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Chairman Sparkman:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.


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Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



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## United States Department of the Interior



National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

D18

November 30, 2010

Mr. Leo R. Henry, Chief  
Tuscarora Nation  
2006 Mt. Hope Road  
Lewistown, New York 14092

Reference: Government to Government Consultations with American Indian Tribes

Subject: Draft General Management Plan for the Blue Ridge Parkway

Dear Chief Henry:

We first contacted your office in 2002 to request your involvement in accordance with the consultation process in various laws, executive orders, and federal regulations and policies calling for government-to-government Native American consultations with American Indian tribes, such as Section 106 of the National Historic Preservation Act, as amended. Since then the Parkway has been gathering data, conducting public and other consultation meetings, all while formulating a draft. After several delays and changes in personnel, the Parkway is again moving forward with a draft. The draft will include analysis pursuant to the National Environmental Policy Act as well as Section 106 of the National Historic Preservation Act. We will be coordinating National Environmental Policy Act analysis with the Section 106 assessment of effect. To that end documentation has been provided to all consulting parties in accordance with 36 CFR 800.11.

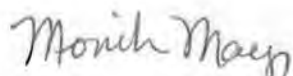
To date five newsletters have gone out to the public on scoping and alternatives. Four public scoping meetings were held in Virginia and North Carolina with more than 140 people in attendance. More than 600 pieces of correspondence have been received and analyzed. Comments have been received from federal and state agencies, Parkway partner organizations, and from experts in the areas of cultural resource management, transportation, and natural resources. Eight federally recognized American Indian tribes were also contacted regarding the general management plan. Parkway staff met in person with the Absentee-Shawnee Tribe, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe, Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. The Catawba Indian Nation responded in writing.

All of the comments and issues identified during public scoping, stakeholder meetings, and tribal consultation were taken into consideration in the formulation of the draft alternatives and in the selection of the preferred alternative. No controversial issues were identified relevant to cultural resources during public meetings or in the comments received.

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A draft general management plan and environmental impact statement should be available in late 2011 for your review and comment. If you have any questions, or require additional information, please contact Mr. Gary Johnson, Landscape Architect at 828-271-4779, x210; or Mr. Steven Kidd, Cultural Resource Specialist at 828-271-4779, x264.

Sincerely,



*for* Philip A. Francis, Jr.  
Superintendent

cc: Chris Church, Project Manager, DSC



7a.1.

# CITY COUNCIL AGENDA REPORT

**To:** Honorable Mayor and Members of City Council  
**Meeting:** December 19, 2011  
**Subject:** Blue Ridge Parkway Draft General Management Plan/Environmental Impact Statement

## **Background:**

The National Park Service published the final Draft General Management Plan/Environmental Impact Statement for the Blue Ridge Parkway in September 2011, and requested public comments. A public forum on the Plan was held on November 10, 2011, at the Brambleton Center in Roanoke County.

Since its founding in 1936 the Parkway has operated using a master plan, the Parkway Land Use Maps and applicable laws and policies for guidance. However, the master plan is outdated and the Parkway is facing an increasing array of issues that require consideration. The new plan is intended to define resource conditions and visitor experiences to be achieved. It will provide a framework for National Park Service managers to use when making decisions about how to best protect Parkway resources, provide a diverse range of visitor experiences, manage visitor use, and develop facilities for the next twenty years or more. It provides an opportunity for the National Park Service to consult with interested stakeholders and analyze the benefits, impacts, and economic costs of alternative courses of action.

The Plan presents three alternatives for the future management of the Parkway. Alternative A is the "no action" alternative of continuing existing management and trends. Under Alternative B, the Parkway would be managed as a traditional, self-contained, scenic recreational driving experience and designed landscape with enhanced opportunities for dispersed outdoor recreation activities. Alternative B is the National Park Service's Preferred Alternative. Under Alternative C, Parkway management would be more integrated with the larger region's resources and economy. More emphasis would be placed on reaching out to communities and linking to regional natural, recreational, and cultural heritage resources and experiences.

On May 19, 2008, the City responded to the initial draft of the Plan with support for Alternative C, with modifications. The City recommended that the National Park Service recognize that the Parkway is enjoyed as a national recreational resource by more than the motoring public; asked the National Park Service to identify increased funding for roadway maintenance as a priority; requested the Parkway to continue management of the Roanoke Mountain and Mill Mountain spur roads and enhance the Roanoke Mountain Campground; recommended that the Parkway accommodate increasing bicycle use with paved shoulders rather than adding separate paved bike paths; recommended improved Parkway visitor orientation services at Explore Park and at the Discovery Center on Mill Mountain; supported unpaved multi-use trails designed for use by hikers, mountain bikers and equestrians; recommended volunteer trail development and maintenance, and linking Parkway trails to the Roanoke Valley Greenway system; requested that the Parkway work with local groups

to develop a solution to providing mountain bike access to the Chestnut Ridge loop; and recommended creating a seamless connection from the Parkway corridor, through the Mill Mountain spur to Mill Mountain Park.

**Considerations:**

The Blue Ridge Parkway contributes greatly to the quality of life in Roanoke, and it is a critical economic development and tourism asset for our region's future. The general premise of Alternative C is the most beneficial to the City of Roanoke. Benefits of Alternative C include a potential Parkway information desk and programs at a site off the Parkway in Roanoke; expanded information and orientation capabilities at Virginia's Explore Park; connections between multi-use Parkway paths and community trails; continued Parkway management of the Roanoke Mountain and Mill Mountain spur road areas that are under lease agreement with the City of Roanoke; and enlarging selected tent sites to better accommodate family-sized tents, upgrading comfort stations to provide showers and universal access, and upgrading existing RV sites with water and electrical hookups at Roanoke Mountain Campground.

However, each of the proposed Alternatives includes elements that do not benefit the greater Roanoke community or elements that the City has previously opposed. None of the Alternatives explicitly embrace the National Park Service's "Healthy Parks, Healthy People," "Pathways to Healthy Living," and "America's Great Outdoors" initiatives, which seek to encourage active recreation and are compatible with Roanoke's Healthy Living Initiative. All of the Alternatives include a recommendation to close social trails. Alternative B (the National Park Service's Preferred Alternative) includes a provision that would guide the Parkway to "establish an agreement with the City of Roanoke for partnership management of the Mill Mountain spur road area" and convert the Roanoke Mountain Campground to a day-use area. The City of Roanoke does not have the financial capability, nor should it be requested, to undertake any action that is currently within the purview of the National Park Service, including the ownership, lease, or operation of any land or facility.

**Recommended Action:**

Approve the attached resolution supporting Alternative C with modifications. Approval of the resolution will not create any additional obligations for the City of Roanoke. The City has received permission to submit its written comments on December 20, following Council consideration of a response to the Draft General Management Plan.



-----  
Christopher P. Morrill  
City Manager

Distribution: Council Appointed Officers  
R. Brian Townsend, Assistant City Manager for Community Development  
Thomas N. Carr, Director, Planning Building and Development  
Steven C. Buschor, Director Parks and Recreation





David  
Suzette 11-15-11

**COUNTY OF ALBEMARLE**

Department of Parks and Recreation  
401 McIntire Road, Room 323  
Charlottesville, Virginia 22902-4596  
(434) 296 - 5844  
Fax (434) 293-0299

November 5, 2011

Superintendent Philip A. Francis Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Dear, Superintendent,

After reviewing the General Management Plan and Environmental Impact options being considered for the Blue Ridge Parkway, and considering opportunities and concerns we are working with as adjacent natural area recreational land managers, the County of Albemarle, Department of Parks and Recreation offers the following comments.

While the northern end of Blue Ridge Park Way terminates before entering Albemarle County, it contributes to a significant "gateway" at Rock Fish Gap, where Nelson County, Albemarle County, Augusta County, the City of Waynesboro and Charlottesville all share an interest. Interstate 64, Rt.250 (the historic "Plank Road" and the Three Notched Trail"), the Blue Ridge Tunnels, the Appalachian Trail, the Southern entrance to the Sky Line Drive, and the Shenandoah National Park all come together to join the Blue Ridge Parkway.

Of these three management plans, alternative C would be more in line with other regional initiatives where natural and cultural heritage resources are concerned. However, any of these alternatives could be beneficial with an effort towards a closer working relationship between localities and Department of Interior land managers.

Sincerely,

Bob Crickenberger,  
Director

Dan Mahon  
Greenways Coordinator



# COMMONWEALTH of VIRGINIA

## Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Douglas W. Domenech  
Secretary of Natural Resources

Kathleen S. Kilpatrick  
Director

Tel: (804) 367-2323  
Fax: (804) 367-2391  
TDD: (804) 367-2386  
www.dhr.virginia.gov

May 30, 2012

Philip A. Francis, Jr., Superintendent  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

RE: Blue Ridge Parkway  
General Management Plan and Environmental Impact Statement  
DHR File No. 2002-1902

Dear Superintendent Francis:

Thank you for requesting our comments on draft General Management Plan and Environmental Impact Statement. We have appreciated the opportunity to participate in earlier meeting leading up to the GNP in Jonesville, North Carolina in 2002 and 2004 to discuss the significance of parkway cultural resources and goals for future management. We are very pleased to see that the action alternatives include a comprehensive parkway-wide approach to cultural resource management. We strongly support the Park's preferred alternative, Alternative B. The draft document is generally very written and organized. We offer the following minor comments for your consideration:

### **Appendix B. Determination of Impairment.**

On page 567, Archaeological resources, it is stated that: *Some impacts could be mitigated through the use of appropriate screening and use of vegetation and appropriate design and new, non-contributing additions could be designed to be compatible with the historic setting.* These are not in fact appropriate mitigations for archaeological sites, but for cultural landscapes and structures.

On page p.568 it is stated that *Ground disturbing activities related to the construction of new concession facilities could result in long term adverse impacts because some sites features or artifacts could be altered, even though their information value would be retained.* However, archaeological sites may be eligible for more than their information value. Archaeological sites may be eligible under criteria A and B as well as D. They may also be of cultural importance to living communities.

Again, on p.568 it is stated that *any potential ground disturbing activities could cause short-term adverse impacts on archaeological resources.* Unfortunately archaeological sites are non-renewable resources. Ground disturbing activities have the potential to cause permanent and severe impacts to archaeological resources to the point of total destruction.

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 862-6416  
Fax: (804) 862-6196

Capital Region Office  
2801 Kensington Office  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391

Tidewater Region Office  
14415 Old Courthouse Way 2<sup>nd</sup>  
Floor  
Newport News, VA 23608  
Tel: (757) 886-2807  
Fax: (757) 886-2808

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5428  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7031  
Fax: (540) 868-7033

However, we can agree that implementation of the preferred alternative would not result in impairment to archaeological resources through implementation of the mitigation measures presented on page 91 and 92.

**Rocky Knob.Mileposts 166-174.**

We have some concern about the effects of Alternative B as presented in the comparison of alternatives from upgrading the Gorge Trail System. There is a special cultural resource zone is Rockcastle Gorge where there are remnants of an abandoned mountain community. Alternative C proposes *In proximity of the historic settlement sites, including the fire road, allow hiking only*. We are not clear whether the upgrade proposed in Alternative B would be for a multi-use trail, rather than hiking only. On page 140 it is stated that *Because this area can tolerate only little impact to historic structures, this special cultural resource zone would provide for long term beneficial impacts on historic structures through added protection*. Discussion of impacts to historic structures here and elsewhere in the document is too narrowly focused on structures that make up the parkway. Impacts to buildings, such as the CCC- era cabin and the Rock Castle Gorge Mountain Community must also be considered. Upgrading the trail does have the potential to affect historic buildings and the cultural landscape. We understand that the cultural landscape report for Rocky Knob is incomplete. No draft has yet been submitted to DHR. DHR has also not received the ethnographic overview and assessment scheduled for approval in 2011(p. 227). Consequently we do not know the status or condition of the buildings remaining in the special cultural resource zone. Nonetheless, the mitigation measures presented on pages 91 and 92 should serve to address the effects that may occur.

We apologize for the delay in our response and look forward to working with you on future projects as Alternative B is implemented. If you have any questions, or if we may provide any further assistance, please do not hesitate to contact me at (804) 367-2323, ext. 112; fax (804) 367-2391; e-mail [ethel.eaton@dhr.virginia.gov](mailto:ethel.eaton@dhr.virginia.gov).

Sincerely,



Ethel R. Eaton, Ph.D., Senior Policy Analyst  
Division of Resource Services and Review

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 862-6416  
Fax: (804) 862-6196

Capital Region Office  
2801 Kensington Office  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391

Tidewater Region Office  
14415 Old Courthouse Way 2<sup>nd</sup>  
Floor  
Newport News, VA 23608  
Tel: (757) 886-2807  
Fax: (757) 886-2808

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5428  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7031  
Fax: (540) 868-7033



**North Carolina Department of Crime Control and Public Safety  
Division of Emergency Management  
Office of Geospatial and Technology Management**

Beverly Eaves Perdue, Governor  
Reuben F. Young, Secretary

H. Douglas Hoell, Jr., Director

November 15, 2011



State Clearinghouse  
N.C. Department of Administration  
1301 Mail Service Center  
Raleigh, North Carolina 27699-1301

**Subject: Intergovernmental Review State Number: 12-E-0000-0094  
Blue Ridge Parkway Management and Use Plan Draft EIS**

As requested by the North Carolina State Clearinghouse, the North Carolina Department of Crime Control and Public Safety Division of Emergency Management Office of Geospatial and Technology Management (GTM) reviewed the proposed Draft Environmental Impact Statement listed above and offer the following comments:

- 1) The following guidance is offered for any project, maintenance, or improvement activities that could impact the base floodplains or special flood hazard areas within and along the Blue Ridge Parkway.
  
- 2) Executive Order 11988 (EO 11988) requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities for the following actions:
  - a. Acquiring, managing, and disposing of federal lands and facilities;
  - b. Providing federally-undertaken, financed, or assisted construction and improvements; and
  - c. Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

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4719 Mail Service Center  
Raleigh, NC 27699-4719  
Telephone: 919-715-5711



Location:  
1812 Tillery Place, Suite 105  
Raleigh, NC 27604  
Fax: 919-715-0408

[www.NCCrimeControl.org](http://www.NCCrimeControl.org)

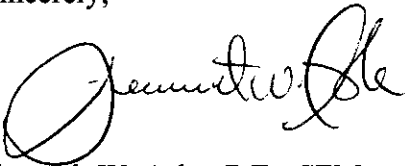
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- 3) As part of the decision-making process for actions which could impact floodplains, the following eight steps are required under Section 2(a) of EO 11988:
- a. Determine if an action is in the base floodplain;
  - b. Conduct early public review, including public notice;
  - c. Identify and evaluate practicable alternatives to locating in the base floodplain, including alternative sites outside of the floodplain;
  - d. Identify impacts of the proposed action;
  - e. If impacts cannot be avoided, develop measures to mitigate unavoidable impacts and restore and preserve the floodplain, as appropriate;
  - f. Reevaluate alternatives;
  - g. Present findings and a public explanation; and
  - h. Implement the action.

Thank you for your cooperation and consideration. If you have any questions concerning the above comments, please contact Dan Brubaker, P.E., CFM, the NC NFIP Engineer at (919) 715-5711 ext. 110, by email at [dbrubaker@ncem.org](mailto:dbrubaker@ncem.org) or at the address shown on the footer of this document.

Sincerely,



Kenneth W. Ashe, P.E., CFM  
Assistant Director

c: John Gerber, NFIP State Coordinator  
Dan Brubaker, NFIP Engineer





North Carolina Department of Environment and Natural Resources  
**Office of Conservation, Planning, and Community Affairs**

Beverly Eaves Perdue, Governor

**Linda Pearsall, Director**

Dee Freeman, Secretary

December 16, 2011

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Dear Superintendent Francis,

The North Carolina Natural Heritage Program (NHP) appreciates the opportunity to provide comments on the Draft General Management Plan for the Blue Ridge Parkway. NHP endorses Alternative C because of its prioritization to take a more ecosystem-based approach to managing the Park's natural resources, its lower tolerance towards impacts on natural resources, its more comprehensive, Parkway-wide, and regional management of invasive species, and its emphasis for NPS staff to proactively seek out willing sellers of high priority private parcels in the region. Additionally, NHP strongly supports and encourages targeting parcels of high biological diversity and conservation value. Alternative C also fully protects threatened and endangered species and all designated natural heritage areas, globally ranked natural communities, and other ecologically sensitive areas that support special status species within the Parkway.

The NC Natural Heritage Program holds Registry Agreements with the National Park Service on Significant Natural Heritage Areas (SNHAs) within the Blue Ridge Parkway in areas of especially high conservation value. The objectives of the Registry Agreements are to establish reserves for rare species, encourage educational activities and scientific research, preserve unique and unusual natural features, and protect natural areas against uses which would destroy their natural conditions. NHP recommends recognition of the Registry Agreements in the section of the General Management Plan entitled "Special Mandates and Administrative Commitments" in Chapter 1 and also in the Natural Resources Protection section.

There are a total of 42 Registered Natural Heritage Areas (RHAs) within the Blue Ridge Parkway. Six out of the fifteen recreation areas described in detail in this Plan have Registered Natural Heritage Areas within them. These sites include the Linville Falls RHA, The Craggies RHA, Mount Pisgah RHA, Julian Price Park Wetland RHA, Doughton Park RHA, and Chestnut Creek Swamp Forest-Bog Complex RHA, which occurs within the Cumberland Knob recreation area. NHP requests that strategies for these recreation areas be consistent with the Registry Agreements in order to minimize impacts to these sensitive areas. Ideally, the Registered Natural Heritage Areas would be designated as Special Natural Resource Areas in the Parkway. At a minimum, new trails or proposed recreation areas should be designed in a way that avoids rare species populations and sensitive habitats to prevent trampling and deter poaching activity.

The Blue Ridge Parkway plays a very significant role in landscape and species habitat connectivity across multiple states in the Southern Appalachians. In the Asheville area, the Parkway contains one of the last remaining strands of natural habitat connecting the northern and southern mountains of North Carolina. This is shown in the attached map, which is based on NHP's Landscape Indicator Habitat Guild (LHIG) Analysis, our best estimate of where natural habitats still possess a high degree of landscape integrity. In addition to protecting individual natural areas located within the Parkway, we recommend that preserving and enhancing landscape connectivity along the entire length of the Parkway be given a high priority. At the I-40 crossing shown on the map, for instance, construction of a wildlife overpass adjacent

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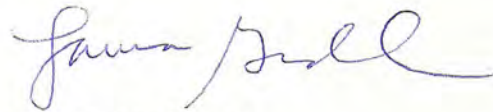
One  
North Carolina  
*Naturally*

to the existing bridge would greatly increase the connectivity value of this corridor. Enhancing the ability of species to move between the southern and northern mountains would improve the connectivity function provided by the Parkway. It would also address one of the Parkway's expressed goals to deal with the effects of climate change, i.e., to "restore key ecosystem features and processes, and protect cultural resources to increase their resilience to climate change" (p. 99 of the General Management Plan). While enhancement of the wildlife crossing at I-40 should be given a very high priority in this regard, other actions taken by the Parkway should also be viewed in terms of their positive or negative impacts on landscape connectivity, including land acquisition, siting of recreational facilities, traffic management, and bridge replacement.

The General Management Plan includes a list the Threatened and Endangered Species that occur in the Blue Ridge Parkway. Please be aware that the North Carolina Plant Conservation Program (PCP) revised the NC Protected Plant List in December, 2010 and because of these recent changes NHP is providing an updated list of all NC protected plants that occur in the Parkway, attached with this letter.

Please do not hesitate to contact me at (919) 707-8647 or [laura.gadd@ncdenr.gov](mailto:laura.gadd@ncdenr.gov) if you have any questions or need further information.

Sincerely,



Laura Gadd, Botanist  
NC Natural Heritage Program

Enclosure



North Carolina Department of Environment and Natural Resources  
Division of Parks and Recreation

Beverly Eaves Perdue, Governor

Dee Freeman, Secretary

Lewis Ledford, Director

November 23, 2011

**MEMORANDUM**

TO: Melba McGee, Environmental Coordinator  
Office of Legislative and Intergovernmental Affairs

FROM: Amin Davis, Environmental Review Coordinator *AKD*  
Division of Parks and Recreation

SUBJECT: Blue Ridge Parkway Draft General Management Plan & Environmental Impact Statement

REFERENCE: Project No. 12-0094

Dear Melba,

The North Carolina Division of Parks and Recreation (DPR) has reviewed the Draft General Management Plan (GMP) and Environmental Impact Statement (EIS) for the Blue Ridge Parkway which encompasses 469 miles through the Appalachian Mountains in North Carolina and Virginia. DPR understands that the National Park Service (NPS) is soliciting input regarding this GMP/EIS per the NPS cover letter dated October 7, 2011 you provided us.

DPR operates and manages the following State Parks that are adjacent to the Parkway: 1.) Grandfather Mountain State Park (GRMO), an approximately 2,500 acre tract of land that is bordered by the Parkway to the east; 2.) Mount Mitchell State Park (MOMI), an approximately 1,700 acre tract of land bordered by the Parkway to the south and west; and 3.) Stone Mountain State Park (STMO), an approximately 13,440 acre tract of land bordered by the Parkway to the northwest. After our preliminary review of the GMP/EIS, DPR respectfully requests that NPS planners conduct further consultations with DPR staff in the earliest stages of project planning for any development proposed in the vicinity of DPR lands or interests. Specific comments received are listed below:

- DPR have a voice in the concept of a user capacity strategy mentioned in the plan. This could affect visitor access to MOMI and the southeastern portion of GRMO,
- NPS continue to support access to MOMI. This has been an issue during periods of construction or repair projects. Some projects cannot avoid state park access issues, but we ask that this be given consideration when planning projects,





We appreciate the opportunity to provide comments for this Draft GMP/EIS. If you need further information concerning these comments, please feel free to contact me.

Attachments: Park Maps (3)  
Vicinity Map

CC via email: Brian Strong, DPR Natural Resources & Planning Head  
Jon Blanchard, DPR Natural Resources Head  
Marshall Ellis, DPR Mountain Region Biologist  
Michael Schafale, NHP Community Ecologist  
Mike Edwards, STMO Acting Park Superintendent  
Rusty Bradley, MOMI Park Superintendent  
Sue McBean, GRMO Park Superintendent  
Sue Regier, DPR Land Protection Head  
Tom Jackson, West District Superintendent



# PEPC Project ID: 10419, Document ID: 43487 Correspondence: 2502

## Author Information

Keep Private: No  
Name: Gregory J. Thorpe  
Organization: NC Dept. of Transportation  
Organization Type: S - State Government  
Address: 1548 Mail Service Center  
(1000 Birch Ridge Drive) Raleigh, NC 27699  
Raleigh, NC 27699-1548  
USA  
E-mail: gthorpe@ncdot.gov

## Correspondence Information

Status: Reviewed                      Park Correspondence Log:  
Date Sent: 12/16/2011              Date Received: 12/16/2011  
Number of Signatures: 1              Form Letter: No  
Contains Request(s): No              Type: Web Form  
Notes:

## Correspondence Text

Topic Question 1:  
Please see detailed comments, below

Topic Question 2:  
Please see detailed comments, below

Topic Question 3:  
Please see detailed comments, below

Comments: December 16, 2011

Superintendent Philip A. Francis, Jr.  
National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

Reference: Draft General Management Plan and Environmental Impact Statement for the Blue Ridge Parkway

Dear Superintendent Francis:

This is in response to your letter dated October 7, 2011 regarding the National Park Service's vision to reinvest in the Blue Ridge Parkway's future. We have reviewed the Draft General Management Plan and Environmental Impact Statement for the Blue Ridge Parkway which identified Alternative B as the National Park Service's preferred management approach. NCDOT agrees with the selection of Alternative B.

Based upon our review of the subject document, we offer the following comments and recommendations:

- The last twenty miles of the Blue Ridge Parkway (BRP) pass through land owned by the Eastern Band of Cherokee Indians (EBCI). A Welcome Center is needed at the south entrance of the BRP. A Welcome Center in Cherokee would aid in visitor orientation of both the EBCI and the BRP. If requested by a local government, NCDOT could become involved through enhancement funding.
- Restoration of the visitor center at Cumberland Knob. The north entrance is a major access point for visitors. Restoration would aid in visitor orientation.
- The construction of nineteen grade separated structures is proposed under Alternative B. The locations of these structures were not identified within the Draft General Management Plan (GMP).
- The locations of proposed grade separations in urban areas without access to the BRP (to decrease commuter traffic) were not identified within the GMP.
- R-2596, widening of US 221 from NC 226 to NC 194 in Avery and McDowell Counties, is unfunded.
- U-3403, widening of NC 191 from NC 280 to NC 112 in Buncombe County, has been deleted from the program.
- I-4700, widening of I-26 in Buncombe and Henderson Counties, is unfunded.
- U-2801, widening of US 25A in Buncombe County, currently is unfunded.
- R-4751, US 19 improvements in Swain County, has been deleted from the program.
- R-2100, NC 16 improvements in Ashe County, has been deleted from the program.
- R-2811, NC 184 widening in Avery County, has been deleted from the program.
- R-5307, NC 184 improvements in Avery County, has been deleted from the program.
- R-2588, NC 191 improvements in Buncombe and Henderson counties, has been deleted from the program.
- Bicycle lanes should be considered between Cherokee (US 441) and Asheville (NC 191).
- Viewshed protection and land development may involve NCDOT during our Comprehensive Transportation Planning (CTP) and NEPA processes, and may include NCDOT review of subdivision roads.
- Air quality issues, both visual and environmental, are important to the BRP's basic function as a scenic roadway. Although much of the air pollution in the region is from power plants outside of the region, NCDOT may become involved in air quality issues through our CTP program and associated air quality modeling.
- How the NPS will determine whether or not local or regional roads should be allowed to intersect or cross the BRP was not addressed in the GMP.
- How the conversion of farmland to subdivisions with driveway access onto the BRP and associated access management issues were not addressed in the GMP.
- The GMP proposes to accomplish management of some non-recreational local and commuter traffic in areas where the BRP is used for other trip purposes by replacing at-grade crossings with new grade separated structures without access between the BRP and state roads. These proposed areas were not identified in the GMP.

- The GMP noted high recreational use mixed with commuter traffic in the Asheville area. The GMP proposed an assessment of the desirability of a side path to accommodate high bicycle demand in the Boone and Blowing Rock areas including the relocation of the Appalachian Trail and the Mountain to Sea Trail within the park. NCDOT may become involved in these issues through the CTP process, as well as through specific Bicycle/Pedestrian initiatives.
- The GMP proposes to seek designation of the BRP as a National Historic Landmark while continuing management as an eligible resource. Such designation could affect NCDOT road construction and improvement projects crossing and adjacent to the BRP.

Thank you for the opportunity to provide comments on the Draft General Management Plan and Environmental Impact Statement for the Blue Ridge Parkway. Please contact me if you have any questions or you need additional information. I may be reached by telephone at 919-707-6000, or by email at [gthorpe@ncdot.gov](mailto:gthorpe@ncdot.gov).

Sincerely,

Original signed by:

Gregory J. Thorpe, Ph.D., Manager  
Project Development & Environmental Analysis Unit

North Carolina Department of Transportation  
1548 Mail Service Center  
1000 Birch Ridge Drive  
Raleigh, NC 27699-1548



## ☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

### MEMORANDUM

**TO:** Melba McGee, Environmental Coordinator  
Office of Legislative and Intergovernmental Affairs  
North Carolina Department of Environment and Natural Resources

**FROM:** Dave McHenry, Habitat Conservation Biologist *D. McH.*

**DATE:** December 8, 2011

**SUBJECT:** United States Department of Interior, National Park Service, Blue Ridge Parkway  
Draft General Management Plan and Environmental Impact Statement  
**OLIA No. 12-0094**

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the United States Department of Interior, National Park Service (NPS), Blue Ridge Parkway (BRP), Draft General Management Plan and Environmental Impact Statement. Comments from the NCWRC on the plan are offered for your consideration under provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the North Carolina Environmental Policy Act (G.S. 113A-1 et seq., as amended; 1 NCAC-25).

The NCWRC offers the following comments on the plan:

1. We greatly value our long-standing collaboration with the BRP and look forward to continuing this relationship. We have worked with BRP staff over the years on coldwater management issues that range from native brook trout conservation to increased angling opportunities on BRP waters. In the end, this collaborative approach has been beneficial for the resources and anglers that utilize them.
2. We support the two action alternatives (B and C) which involve "more proactive management of natural resources, incorporating long-term approaches, and advancing regional ecosystem health through active partnerships" rather than the no-action alternative which would address management needs on a case-by-case basis. There are numerous partners and conservation partnerships (e.g., Appalachian Mountains Joint Venture, Appalachian Landscape Conservation

Cooperative, Central Appalachian Spruce Restoration Initiative, NC and Southeast Golden-winged warbler working groups, etc) for NPS efforts to integrate with, so the action alternatives would be the best directions to accomplish regional conservation goals.

3. We recommend including a broader scope of habitat enhancement in the Craggies with a proactive ecosystem approach (consistent with alternatives B & C) while also recognizing the inherent, but not insurmountable, conflicts between management for balds species and forest-dwelling species that will have to be evaluated by the NEPA process. Restoration of both balds and surrounding forest are needed and conservation measures can be designed to achieve both. For example, management of grassy bald and surrounding spruce/northern hardwood forest has been addressed recently in other parts of the Southern Appalachians (e.g., Roan Mtn./Roan Mtn. Stewardship Committee). We recommend that the NPS (1) coordinate with NCWRC and US Fish and Wildlife Service to avoid negative impacts to Carolina northern flying squirrel (CNFS), pigmy salamander, northern saw whet owl, and other spruce-associates and (2) develop a spruce restoration plan/project for the Craggies to restore ecosystem function and processes for listed species and to offset any forest habitat lost to bald restoration. To emphasize the ecosystem approach, the NCWRC can provide guidance on associated species (in addition to listed or target species) benefiting from restoration of the grassy bald and restoration of spruce-northern hardwood forest. There is currently momentum for analysis of spruce restoration needs in the Southern Appalachians that will include an evaluation of the Craggy Mountain region.
4. Although we are supportive of both alternatives B&C because of similar natural resource guidelines, we do have some potential reservations with Alternative C if facility redesigns would increase the developed footprints and cause either (1) more loss of habitat to accommodate these facilities (especially if in T&E species habitat) or (2) increased disturbance to species that are sensitive to disturbance. Part 3 of the EIS specifies that facility expansions are not likely to impact CNFS or saw whet owl (see pg.s 325, 332), but that would require thorough evaluation of specific projects and development plans to verify that impacts would be avoided.

The NCWRC appreciates the opportunity to provide comments on the plan. Please call me at (828) 452-0422 extension 24 if you would like to discuss these comments.

Cc:

C. Kelly, NCWRC

J. Rash, NCWRC



**North Carolina Department of Cultural Resources**  
**State Historic Preservation Office**

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor  
Linda A. Carlisle, Secretary  
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History  
Division of Historical Resources  
David Brook, Director

March 26, 2009

Park Superintendent  
199 Hemphill Knob Road  
Asheville, NC 28803

Re: General Management Plan for Blue Ridge Parkway, Multi County, ER 08-0886

Dear Sir:

We have received notification from the State Clearinghouse concerning the above project. We apologize for the delay in our response.

As parkway planning progresses, we recommend that individual projects involving ground disturbance be submitted to our office for review.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in black ink that reads "Peter Sandbeck".

Peter Sandbeck

cc: State Clearinghouse

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

16 December 2011

Dear Superintendent Francis,

The National Parks Conservation Association (NPCA) would like to thank you for this opportunity to comment on the Blue Ridge Parkway's Draft General Management Plan and Environmental Impact Statement. Since our founding in 1919, NPCA has grown to represent more than 600,000 members and supporters through our DC headquarters and 23 regional and field offices, all working to "protect and enhance America's National Park System for present and future generations." Our members care deeply about the shared natural and cultural heritage that is preserved by the National Park Service on behalf of all Americans.

Before offering a critique of certain details of the plan, we would like to note our belief that the Draft GMP is one of the most well written and well organized GMP documents that have been produced in the southeast region. The language is clear and concise and the maps, tables, and figures are well designed and helpful in deciphering what is necessarily a highly detailed plan for a unique and complex park. Having recognized the overall quality of the document, we would like now to address several issues that we believe deserve further attention.

#### **I. NPCA support for Alternative B**

NPCA supports the Park Service's preferred Alternative B, which attempts to provide for reasonable outdoor recreational opportunities while preserving and enhancing the resources of the park. However, in choosing to increase the management emphasis on enhanced recreation, the language of the draft document may leave some readers with the impression that recreational access and use will take precedence over the protection of the Parkway's natural and cultural resources. This impression can be eliminated by more directly stating the Park Service's obligation under the Organic Act to protect the purpose of the parks...

**"...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."**

In other words, even under preferred Alternative B, the protection of wildlife and the Parkway's natural and cultural resources must take precedence over recreational access, and recreational use must leave the resource "unimpaired for the enjoyment of future generations". There are places in the draft document where this point is made, such as on page 113 where it states, "... alternative B places greater emphasis on enhancing outdoor recreational opportunities without degrading the park's environment." However, for the benefit of future managers, we feel that it is important that the final GMP clearly and repeatedly state, in stronger and more emphatic language, that the push for recreational improvements cannot override resource protection. Only



in this way will Alternative B be able to strike a true balance between resource preservation and recreational enhancement, while fulfilling the requirements of the Organic Act.

NPCA also believes that it is important to stress that National Parks are not intended to support all types of recreation. Various other federal, state, local, and private recreation providers exist to share the demand for recreational opportunities and to provide for those types of recreation that generally do not belong in the National Parks, or that must be carefully limited. Again, the 1916 NPS Organic Act emphasizes conservation for future generations and is substantially different from the organic laws of the US Forest Service, the US Fish and Wildlife Service, the Army Corps of Engineers, the Bureau of Land Management, or any other federal agency. The NPS mission is also different from that of state park agencies, or of county or city park agencies. Together, these agencies provide for many forms of public recreation—but not all forms of recreation are appropriate in National Parks.

NPCA supports a plan that promotes appropriate outdoor recreational opportunities, so long as such enhancements do not impair the resources and purpose of the park. We think that having this principle in the GMP will provide important guidance for future managers.

NPCA supports the nomination of the Parkway as a *National Historic Landmark*. We believe that this designation will provide the National Park Service with a stronger basis and rationale for requesting funding for trail and road maintenance, and for funding to enhance appropriate recreational uses. NPCA understands that the Park Service faces serious challenges, both in garnering adequate operations and maintenance funding from Congress, and in managing multiple user groups, possessing differing goals, in such a way as to avoid potential conflicts. The Parkway will stand a better chance of increasing its funding base and addressing these needs under a *National Historic Landmark* designation.

Furthermore, we recognize the Parkway's efforts to support President Obama's *America's Great Outdoors* initiative and NPS Director Jon Jarvis's *Call to Action*, both of which underscore the importance of outdoor recreation for the health and well-being of Americans. We believe that Alternative B does this by committing to "provide enhanced opportunities for dispersed outdoor recreation activities" and promising to "seek to... build stronger connections with adjacent communities" (p. 45). Alternative B also pledges to... "Actively pursue new partnerships with public and private entities to plan and implement joint ventures that support parkway goals" (p. 48). Finally, NPCA supports the Parkway's proposal to expand the visitor season from 6 to 9 months as another means of broadening access for visitors and recreational users.

## **II. Cumulative impacts of potential improvements to the 199 public secondary roads that cross the Parkway at-grade**

It is the belief of NPCA that the single most important issue, having the potential to radically alter the nature of the Parkway in the coming generation, is the determination and management of the cumulative impacts of improvements to the secondary roads that intersect the Parkway.

According to a recent study by the UNC Charlotte Center for Applied Geographic Information Science (see <http://renci.uncc.edu/nearly-570-increase-in-development-in-western-nc-mountains->

since-1976/), since 1976, western North Carolina's mountains have experienced a 42% increase in population and a 568% increase in land development. Though growth has temporarily slowed due to the economic downturn, the Parkway's relationship to the regional transportation network is at a crossroads. The general management plan, if properly framed, can greatly assist the Parkway in preserving its integrity as a self-contained, scenic motorway separate and distinct from the regional highway system. Alternatively, a GMP that does not clearly address this problem could be ill-equipped to respond to, and may even foster, a process of sporadic and piecemeal road development that will, over time, trigger additional poorly conceived development and slowly transform the historic parkway into just another link in the regional transportation network, to be used by increasing numbers of non-Parkway visitors as a commuter traffic route.

The GMP should more explicitly recognize that under the National Environmental Policy Act, the National Park Service is required to analyze cumulative impacts of secondary road improvements on Parkway resources. NPCA applauds the fact that all three plan alternatives continue the current "...moratorium on secondary road improvement projects, in both Virginia and North Carolina, until a comprehensive corridor access management plan and environmental impact statement are completed" (pages 44, 47, and 50, under *Access and Circulation*). In all three alternatives, NPCA suggests that the Park Service append clarifying language such as: "The National Environmental Policy Act mandates that NPS undertake such a planning process in order to properly and comprehensively assess the cumulative impacts of secondary road improvements to Parkway resources."

Similarly, on page 103 under *Access Plans*, the draft document states that NPS will... "Develop a comprehensive access management plan that defines locations and traffic control strategies for all driveway and secondary road access on the parkway, including locations for the potential replacement of at-grade crossings with new grade separation structures." Again, NPCA urges the Park Service to append a statement similar to the following: "The National Environmental Policy Act mandates that NPS undertake such a planning process in order to properly and comprehensively assess the cumulative impacts of secondary road improvements to Parkway resources. The current moratorium on secondary road improvement projects cannot be lifted until the National Park Service can fulfill this mandate by completing a comprehensive access management study."

NPCA further believes that in addition to identifying locations for new grade separation structures, any comprehensive access management plan or transportation implementation plan must also answer the following questions: 1) Which secondary roads must remain at-grade, but can be left permanently unimproved? And 2) Which at-grade crossings could be closed or eliminated, possibly through roadway redesign and merger into off-Parkway frontage roads, or through conversion of automobile-centered roads to non-auto, multi-use trails?

Additional places in the draft document where language can be strengthened in recognition that a comprehensive access management planning process is needed following the GMP, in order to fulfill the requirements of NEPA, are as follows.

(p. iv) NPCA suggests that the following statement...

“Under alternative B, the parkway would be actively managed as a traditional, self-contained, scenic recreational driving experience and designed landscape.”

might be enhanced by language similar to this...

“Under alternative B, the parkway would be actively managed as a designed landscape and traditional, self-contained, controlled access, scenic recreational driving experience, separate and distinct from the regional transportation network.”

(p. 8) We suggest that the following statement...

The general management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions would be addressed during more detailed planning efforts associated with the development of future strategic and implementation plans. All future plans would tier from the approved general management plan and would be based on the goals, future conditions, and appropriate types of activities established in it.

might be expanded to read something like this...

The general management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions would be addressed during more detailed planning efforts associated with the development of future strategic and implementation plans. All future plans would tier from the approved general management plan and would be based on the goals, future conditions, and appropriate types of activities established in it. An example of such an implementation plan would be the comprehensive access management plan to assess cumulative impacts of secondary road improvement projects to Parkway resources, as required by the National Environmental Policy Act. The current moratorium on secondary road improvement projects cannot be lifted prior to the completion of this implementation plan.

(p. 9) Under the section on *Park Purpose*, to add weight and to distinguish the Parkway from the regional road network, the list of bullet point purpose statements should draw from the language found on page 4 with a statement such as:

- Provide, as a national rural roadway, the experience of a limited access road designed for pleasant motoring, a form of recreational driving free from commercial traffic.

On a related note, the Parkway’s authorizing legislation, on p. 555-556, specifically provides that... “The Secretary of Agriculture is hereby authorized, with the concurrence of the Secretary of the Interior, to connect with the parkway such roads and trails as may be necessary for the protection, administration, or utilization of adjacent and nearby national forests and the resources thereof...” In this clause, Congress established the expectation of otherwise limited access.

(p. 22) We believe that the following statement may be potentially misleading...

“Many of these (secondary roads intersecting the Parkway) are scheduled to be upgraded over the next several years.”

NPCA suggests clearer and more specific language such as...

“It can be expected that in the coming years a significant number of the secondary roads that intersect the Parkway could be subject to requests for road widening or upgrade. The authorization of any such requests will be subject to NPS jurisdiction, this general management plan, and the subsequent comprehensive access management plan assessing cumulative impacts, as required by NEPA.”

(p. 24) NPCA commends the National Park Service for including a clear statement addressing climate change in the GMP, this statement should also include recognition of the Parkway’s unique role as a potential north-south migration corridor. The length and orientation of the Parkway may facilitate movement and adaptation that cannot reasonably happen otherwise and, therefore, provide a unique and valuable ecological service.

(p. 25) Under the section *Decision Points Arising From Issues*, NPCA suggests that the following question...

6. What criteria should the National Park Service use to determine whether or not and how secondary local and regional roads should be allowed to intersect or cross the parkway?

be changed to read...

6. What criteria should the National Park Service use to determine whether or not and how secondary local and regional roads should be allowed to intersect or cross the parkway, and how will the cumulative impacts from secondary road improvement projects be mitigated and managed?

(pp. 476-482) NPCA believes that this section on Alternative B needs to reiterate the existence of the moratorium on secondary road improvement projects, the NEPA requirement, and express a greater sense of urgency regarding the importance of and need for a comprehensive access management plan. On page 481, for example, under *Cumulative Effects*, NPCA believes that the following statement is problematic.

“As described for Alternative A, highway widening and roadway improvements planned near certain areas of the parkway would have a beneficial effect on traffic volumes and safety conditions. Resource protection activities occurring on surrounding lands would also help control development to a limited extent in specific areas”

We suggest language similar to the following.

“As described for Alternative A, requests for highway widening and roadway improvements intersecting the parkway are expected in the future. Some of these might have beneficial effects on traffic flow and safety conditions. However, they may also spur resource-impacting parkway

adjacent development and result in increased use of the parkway for non-visitor commuter transportation. The National Park Service is required under NEPA to assess the cumulative impacts of these road improvement projects and will do so through a comprehensive access management plan that will follow the GMP.”

In conclusion, in an age of budget austerity the GMP will lay the groundwork and set the priorities for critical management decision for a generation to come. We hope that the problem of managing the cumulative impacts of secondary roads will be definitively addressed in the final GMP and that the resolution of this problem will be expressed as an urgent priority going forward.

We are grateful for this opportunity to provide comments and appreciative of the hard work and dedication of the National Park Service in preserving the best examples of America’s natural and cultural heritage for future generations. We look forward to a GMP/FEIS that addresses and incorporates our concerns.

Sincerely,



Chris Watson  
Program Manager, Southeast Regional Office  
National Parks Conservation Association  
706 Walnut Street, Suite 200  
Knoxville, TN 37902  
(865) 329-2424, ext.24  
cwatson@npca.org

*To protect and preserve America's National Park System for present and future generations*



[www.npca.org](http://www.npca.org)



ROANOKE  
REGIONAL  
CHAMBER OF  
COMMERCE

December 15, 2011

Superintendent Phillip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Re: Blue Ridge Parkway Draft General Management Plan/Environmental Impact Statement

Dear Superintendent Francis

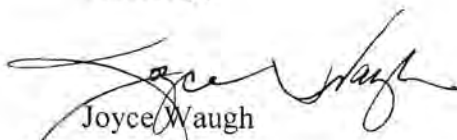
On behalf of the Roanoke Regional Chamber of Commerce, I am writing to express our support for Alternative C of the proposed Blue Ridge Parkway Final Draft General Management Plan/Environmental Impact Statement.

Access to outdoor amenities is a vital component of the Roanoke region's quality of life and a catalyst for economic development and tourism. Alternative C would further integrate the Parkway with our region's economy and existing outdoor recreational amenities. The Chamber believes that all reasonable steps to create a seamless connection between the Parkway and Mill Mountain Park through the Mill Mountain Spur and the Chestnut Ridge Loop to the Wood Thrush Trail and other trails in Mill Mountain Park should be given substantive consideration. In addition, the Chamber supports improvements to the Roanoke Mountain Campground to meet market demand for additional campsites in the Roanoke region. Permitting mountain biking on the Chestnut Ridge Loop Trail would stimulate additional interest in the campground.

Based on their knowledge of the geographic proximity of the Parkway to the Roanoke Valley, the Chamber believes that local stakeholders are ideally suited to evaluate the network of "social trails" that are currently used by bicyclists, hikers, and equestrians to access the Parkway. Safe access to the Parkway that is adaptable to a diverse range of user activities is critical to the Roanoke region's ongoing efforts to develop its outdoor recreational amenities into a thriving economic driver.

The Chamber appreciates the Parkway administration's on-going commitment to working with this region's users of the Parkway.

Sincerely,



Joyce Waugh  
President



210 S. JEFFERSON STREET  
ROANOKE, VA 24011-1702

(540) 983-0700  
FAX (540) 983-0723

[business@roanokechamber.org](mailto:business@roanokechamber.org)

[WWW.ROANOKECHAMBER.ORG](http://WWW.ROANOKECHAMBER.ORG)



# County of Roanoke

OFFICE OF THE COUNTY ADMINISTRATOR

PO Box 29800, 5204 Bernard Drive  
Roanoke, Virginia 24018-0798

B. CLAYTON GOODMAN III  
COUNTY ADMINISTRATOR

TEL: (540) 772.2004  
FAX: (540) 561.2884

December 15, 2011

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, VA 28803

Subject: Draft General Management Plan/Environmental Impact Statement for the Blue Ridge Parkway

Dear Superintendent Francis:

The County of Roanoke has completed its review of the Draft General Management Plan/Environmental Impact Statement (GMP) for the Blue Ridge Parkway. The Draft GMP is a long-range comprehensive plan that will manage growth and development of the Blue Ridge Parkway for the next 20 or more years. The Draft GMP provides for three alternative management approaches (generally outlined below) to determine the most appropriate way to manage park resources and visitor experiences.

Alternative A	Alternative B	Alternative C
<ul style="list-style-type: none"><li>• <b>“No-action”</b></li><li>• <b>Consists of the existing parkway management and trends;</b></li><li>• <b>Serves as a basis for evaluating the other alternatives</b></li></ul>	<ul style="list-style-type: none"><li>• NPS Preferred</li><li>• Parkway would be actively managed as a traditional, self-contained, scenic recreation driving experience and designed landscape</li><li>• Enhance outdoor recreational opportunities and regional natural resource connectivity</li></ul>	<ul style="list-style-type: none"><li>• Parkway management more integrated with regional resources and economy</li><li>• Focus on enhancing parkway visitor services</li><li>• More emphasis on community outreach</li><li>• Linking regional natural, recreational, and cultural heritage resources and experiences</li></ul>

As the Draft GMP provides over-arching, long-range strategies, as opposed to the inclusion of specific details for implementation, the County has a particular concern with the reference in Alternative B to “actively manage [the Parkway] as a traditional, self-contained, scenic recreational driving experience...”. While Alternative B indicates

support of enhanced opportunities for dispersed outdoor recreation activities, Alternative C has more emphasis on reaching out to communities along the Blue Ridge Parkway. Alternative B appears to focus on promoting the driving experience with less emphasis on the bicycle and pedestrian amenities. It is important that connections between our parks and trails be promoted for expanded use of the Blue Ridge Parkway for outdoor recreational purposes.

In particular, the County is very supportive of the development of multi-use trails for hiking, biking and equestrian use. As outlined in the County's comments for the Roanoke Valley/Blue Ridge Parkway Trail Plan (enclosed and included as part of the County's comments), volunteer trail development and re-establishment of maintenance agreements are encouraged to connect the Blue Ridge Parkway to the Roanoke Valley Greenway system through an adaptive management approach of trail resources. The following modifications to Alternative C of the Roanoke Valley/Blue Ridge Parkway Trail Plan were recommended by the County in support of the development of bicycle and pedestrian connections between the Blue Ridge Parkway and the Roanoke Valley's regional trail system:

- Provide extension of the Roanoke River Greenway along the Roanoke River from the Parkway to Explore Park; exact route to be determined upon coordination with the Parkway, Roanoke Valley Resource Authority (RVRA), Explore Park/VRFA, and Roanoke County;
- Unauthorized social trails remain open until such time that resources are available to provide alternative access points for the citizens in our communities;
- Include one-year pilot project to evaluate shared use of the Chestnut Ridge Loop for hikers, equestrians, and mountain bikers; and
- Acknowledge the need for a trail crossing (bridge) at the Roanoke River; and
- Explore additional options for access and crossings at Rutrough Road, as current location shown on maps has limited sight distance.

From an economic development and tourism perspective, the Blue Ridge Parkway serves as a catalyst for drawing visitors to the Roanoke Valley. The County supports improvement of regional visitor information and service facilities (i.e. Virginia's Explore Park) and interpretive programs for the Roanoke area. The County is also working with citizen groups such as the Bent Mountain Community to promote activities which hopefully will provide connection to the Parkway visitors experience when traveling the Roanoke Valley section of the Parkway. The Virginia Outdoors Plan identifies the need for more campsites in our region. The County supports improvements to the Roanoke Mountain Campground to better accommodate varying user interests. Including campgrounds along the Parkway into the Blue Ridge Parkway Concessions Management Plan should be considered as the upgrade costs outlined in the Draft GMP are significant.



Letter to Superintendent Francis  
December 15, 2011  
Page 3

Regarding transportation improvements, the County supports the redesign of overlook pullouts to enhance visibility to passing motorists. The County is opposed to the replacement of any existing entrances with grade separated crossings that would restrict access to the Blue Ridge Parkway. The County is also opposed to the moratorium on secondary road improvement projects until a comprehensive corridor access management plan and environmental impact statement are completed since no time frame is provided for when this would be completed in the Draft GMP. The County does support the consideration of extending mass transit connections and shuttle systems to provide alternative transportation to parkway visitor facilities.

In summary, the County supports "Alternative C" of the Draft GMP, which is more comprehensive in providing integration with the region's economic, natural, recreational, cultural and historical resources, with inclusion of modifications recommended by the County in response to the Roanoke Valley/Blue Ridge Parkway Trail Plan.

Thank you for the opportunity to review and comment on the Draft General Management Plan / Environmental Impact Statement for the Blue Ridge Parkway. We appreciate the hard work and dedication you have demonstrated in the preparation of this plan. If you have any questions, please contact me or Philip Thompson at (540) 772-2068 x365 or [pthompson@roanokecountyva.gov](mailto:pthompson@roanokecountyva.gov).

Sincerely,



B. Clayton Goodman, III  
County Administrator

Enclosure

Copy: Roanoke County Board of Supervisors  
Arnold Covey, Director of Community Development  
Philip Thompson, Deputy Director of Planning, Community Development



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
SAM NUNN  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA GEORGIA 30303-8960

December 6, 2011

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

**RE: Draft General Management Plan /Environmental Impact Statement Blue Ridge Parkway Virginia and North Carolina  
CEQ Number: 20110334**

Dear Mr. Francis:

Pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has reviewed the subject Draft General Management Plan /Environmental Impact Statement Blue Ridge Parkway Virginia and North Carolina. This Draft Environmental Impact Statement (DEIS) was reviewed by EPA Region 3 (Virginia) and EPA Region 4 (North Carolina).

General management plans are intended to be long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in units of the national park system. General management plans usually provide guidance during a 15- to 20-year period.

This Draft General Management Plan /Environmental Impact Statement presents three alternatives for the future management of the Blue Ridge Parkway. The alternatives, which are based on the parkway's purpose, significance, and special mandates, present different ways to manage resources and visitor use and improve facilities and infrastructure. The three alternatives are the no-action alternative (continue current management), alternative B, and alternative C. Alternative B has been identified as the National Park Service's preferred alternative.

**ALTERNATIVE A: THE NO-ACTION ALTERNATIVE (CONTINUE CURRENT MANAGEMENT)**

The no-action alternative consists of a continuation of existing management and trends at the parkway and provides a baseline for comparison in evaluating the changes and impacts of the other alternatives. The National Park Service would continue to manage the parkway as it is currently being managed, but there is not a comprehensive parkway-wide resource and visitor

use management direction for setting priorities. Resource and visitor use issues and conflicts would continue to be resolved on a case-by-case basis without the guidance of an agreed upon parkway-wide management strategy.

#### ALTERNATIVE B (NATIONAL PARK SERVICE PREFERRED)

Under alternative B, the parkway would be actively managed as a traditional, self contained, scenic recreational driving experience and designed landscape. To support that experience, many of the parkway's recreation areas would provide enhanced opportunities for dispersed outdoor recreation activities. This alternative would provide a comprehensive parkway-wide approach to resource and visitor use management. Specific management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities and development would be applied to parkway lands consistent with this concept. This alternative would also seek to enhance resource protection, regional natural resource connectivity, and build stronger connections with adjacent communities.

#### ALTERNATIVE C

Under alternative C, parkway management would be more integrated with the larger region's resources and economy. More emphasis would be placed on reaching out to communities and linking to regional natural, recreational, and cultural heritage resources and experiences. The parkway would continue to be managed to retain the fundamental character of the traditional designed landscape and scenic driving experience. However, a variety of more modern recreational and visitor service amenities would be provided, primarily concentrated in visitor services areas. As a result, portions of some recreation areas would be redesigned.

### **EPA's COMMENTS and RECOMMENDATIONS**

#### **General Comments**

##### Parkway Biodiversity:

The 469-mile Blue Ridge Parkway has about 400 road crossings, each one a pathway for exotics. The parkway is home to nine federally listed species and 14 species of federal concern. Its flora includes more than 2,000 species of vascular plants, 400 mosses and more than 100 kinds of trees. It supports more than 2,000 types of fungi, as well as 67 mammal, 93 fish, 43 amphibian, 40 reptile and 227 bird species. Along its 470-mile length, it intersects 15 watersheds. It contains 600 miles of streams, more than 150 wetlands and bogs and more than 300 seeps. Sixteen of its peaks rise above 5,000 feet, and it bisects six of 11 major sites supporting southern Appalachian spruce-fir forests. Sometimes-abrupt elevation changes occur regularly as the parkway climbs toward summits winds through gaps and descends to cross the James, Roanoke, Linville and French Broad rivers. Overall, its elevation ranges from 600 to 6,000 feet.

## Threats to Blue Ridge Parkway biodiversity:

1. Exotic plants and forest pests. The parkway cannot handle all threats posed by exotic plants (among the worst problems: oriental bittersweet, microstegium, Chinese yam, coltsfoot, Japanese spirea, honeysuckle and wisteria, tree of heaven, princess tree, garlic mustard and kudzu), so it developed an exotic-plant management plan five or six years ago that established high-elevation sites and wetlands as top priority areas for fighting invasives. Forest pests the parkway is fighting include the hemlock woolly adelgid and gypsy moth.

Controlling invasive species is accomplished using a variety of methods: the use of herbicides, mechanical controls, physical control, such as fire, biological controls by the intentional introduction melaleuca-damaging beetles and public awareness. Herbicides, however, are generally non-selective in inhibiting plant growth. Control methods most appropriate for widely differing park habitats need to be determined by NPS scientific staff, who must balance the protection of native plants/wildlife with exotic plant control objectives.

There is discomfort among some members of the public who harbor concerns over herbicides having unforeseen consequences adversely impacting park ecosystems and ultimately human health. These concerns include herbicide movement in soils, persistence in ground/surface waters, long-term ecological effects on non-target species such as fish, birds, mammals, and target plant species becoming resistant to herbicides.

EPA supports the use of registered herbicides if they are properly applied by licensed applicators, because there does not appear to be any cost-effective alternatives for controlling the spread of invasive exotic plant infestations. Infested sites are often situated in remote areas making mechanical removal impractical because of access difficulties. Keeping abreast of treatment frequencies, vulnerabilities of pest species, protection for threatened and endangered species residing at hundreds of differing locales, clearly require sophisticated management tools. Integrated management techniques including herbicides, mechanical removal, fire, biological controls, need to be coordinated through the use of GIS-based management tools to ensure that invasive species control is achievable for the long term.

**EPA recommends** an integrated pest management approach be developed using products with a low toxicity profile in sensitive ecosystems, since studies done in labs and under controlled conditions cannot always predict the effects on particularly sensitive individuals, biota or ecosystems. Successful eradication measures and other Best Management Practices (BMPs) should be clearly identified in the FEIS with emphasis on the construction of new trails and parking facilities.

2. Trampling by visitors and poaching. Unfortunately visitors right walk out on the edges of rock ledges, which is where many of our rare species occur. Trampling also occurs along trails.

3. Land development along the parkway. In some areas, adjacent landowners are bushwhacking to reach parkway trails, which provide additional corridors for exotics to migrate onto parkway lands. Development is a view shed issue, but it also has the effect of squashing whatever is rare and exotic onto parkway land.

4. Air pollution and global warming. Because it wasn't listed as a Class 1 air shed under the Clean Air Act, the parkway does not monitor air quality, although potentially air pollution and climate change could dwarf all other issues.

**EPA recommends** the final Management Plan include significant monitoring activities to ensure that the increase in hardened access areas and likely subsequent increase in recreational and educational usage of the park do not negatively impact biodiversity, natural and cultural resources.

#### **Other general issues identified in DEIS:**

*"In general, most motorcycle accidents occurred in the southern portions of the parkway where the roadway geometry is more varied, and most of the deer-related accidents occurred in the northern portions where the topography and land use creates more wildlife crossings. The most common area for deer related accidents is near Roanoke between milepost 104 and milepost 128. Over 70% of the accidents in this 24-mile section were deer-related (DEA 2004)".* **EPA recommends** that NPS consider large mammal wildlife passages to address this safety concern. NPS should consult with NCWRC and USFWS on the design of appropriate wildlife passages.

*"Utility Operations is responsible for monitoring systems for water, sewer, electric, heating and cooling. The parkway currently maintains 45 individual potable water treatment systems, 94 wastewater treatment units, and 118 HVAC systems. There are also three solar powered units, two of which support visitor services areas. Many of these systems have exceeded their maximum effective life of 15 years, therefore creating greater operational costs".* **EPA recommends** replacement of failing systems and further exploration of more energy efficient "green" systems.

In the spirit of collaboration and technical assistance the EPA recommends some sustainability concepts which could be considered in the final management plan.

#### **Green Building**

Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from design to, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high performance building.

Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution and environmental degradation

For example, green buildings may incorporate sustainable materials in their construction

(e.g., reused, recycled-content, or made from renewable resources); create healthy indoor environments with minimal pollutants (e.g., reduced product emissions); and/or feature landscaping that reduces water usage (e.g., by using native plants that survive without extra watering).

In the United States, buildings account for:

- 39 percent of total energy use
- 12 percent of the total water consumption
- 68 percent of total electricity consumption
- 38 percent of the carbon dioxide emissions

Potential benefits of green building can include:

#### **Environmental benefits**

- Enhance and protect biodiversity and ecosystems
- Improve air and water quality
- Reduce waste streams
- Conserve and restore natural resources

#### **Economic benefits**

- Reduce operating costs
- Create, expand, and shape markets for green product and services
- Improve occupant productivity
- Optimize life-cycle economic performance

#### **Social benefits**

- Enhance occupant comfort and health
- Heighten aesthetic qualities
- Minimize strain on local infrastructure

#### **Green Parking**

Green parking refers to several techniques that when applied together reduce the contribution of parking lots to total impervious cover. From a storm water perspective, green parking techniques applied in the right combination can dramatically reduce impervious cover and, consequently, reduce the amount of storm water runoff. Green parking lot techniques include: setting minimums of permanent parking spaces; minimizing the dimensions of parking lot spaces; utilizing alternative pavers in overflow parking areas; using bioretention areas to treat storm water; encouraging shared parking.

Green parking lots can dramatically reduce the creation of new impervious cover. How much is reduced depends on the combination of techniques used to achieve the greenest parking. While the pollutant removal rates of bioretention areas have not been directly measured, their capability is considered comparable to a dry swale, which removes 91 percent of total suspended

solids, 67 percent of total phosphorous, 92 percent of total nitrogen, and 80-90 percent of metals (Claytor and Schueler, 1996).

North Carolina's Fort Bragg vehicle maintenance facility parking lot is an excellent example of the benefits of rethinking parking lot design (NRDC, 1999). The redesign incorporated storm water management features, such as detention basins located within grassed islands, and an onsite drainage system that exploited existing sandy soils. The redesign reduced impervious cover by 40 percent, increased parking by 20 percent, and saved 20 percent or \$1.6 million on construction costs over the original, conventional design.

Briefly three other sustainable activities which may be applicable to the Park Service's general management plan are as follows:

- **Green Detention Ponds**
- **Rain Water Harvesting**
- **Rain Gardens**

*"Under alternative B, 10,139 acres (12.3%) of parkway lands would be zoned recreation in order to enhance outdoor recreational opportunities for visitors. Expanding or improving amenities and services within this zone would attract more visitors to less accessible areas of the parkway, increasing the likelihood of adverse impacts on threatened and endangered species. However, management prescriptions under the recreation zone state that any additional developments or use would be adapted as needed to protect threatened and endangered species"*  
**EPA recommends** earlier and greater coordination with USFWS to avoid potential future conflicts under the Endangered Species Act.

### **Specific Comments**

Page 5 of the DEIS indicates that there are 9 Federally-listed threatened & endangered species (animals); 24 plants globally rare; 7 considered globally imperiled. Page 10 of the DEIS indicates there are 8 Federally-listed species. Page 23 indicates 4 rare and endangered animal species and 25 rare and endangered plant species. Page 199 includes 7 Federally-listed threatened and endangered animal species and 5 Federally-listed threatened and endangered plant species. **EPA recommends** these sections need to be clarified and better defined in FEIS.

The DEIS indicates that the Moses H. Cone Estate Developed Area Management Plan is expected to be issued by NPS as a separate document in the Fall of 2011. **EPA requests a copy for review.**

Page 13 mentions the Roanoke River Parkway and the potential Explore Park in VA. **EPA recommends** that these projects be discussed further in the cumulative impact section to address issues such as potential secondary development.

Page 27 of the DEIS identifies the Wilson Creek Comprehensive River Management Plan. In this plan, riverbanks should remain largely undeveloped, "but may be accessible in

places by roads”. **EPA recommends** that to the greatest extent practicable, new roads should not be placed in riparian areas to creeks and rivers designated as Wild and Scenic.

Page 38 of the DEIS identifies the development of a multi-use trail parallel to but separate from the parkway in the Boone/Blowing Rock area (Segment 4) as part of the Preferred Alternative B. The existing habitat and proposed length and width of the paved trail is not specified in the DEIS.

Page 83 indicates that under Alternative B the picnic area will be relocated out of the floodplain and the current site restored. EPA supports this option under Alternative B.

Page 84 indicates that trails will be possibly ‘paved’. Further justification for recreational use requiring paved trails needs to be provided in the FEIS.

The DEIS identifies numerous locations under Alternative B that will include new water and electrical hook-ups for RVs. **EPA recommends** that NPS strongly consider solar-powered or other “green energy sources”.

Page 89 This section is vague regarding the activities listed. **EPA recommends** the activities be listed in the FEIS.

Page 90 of the DEIS indicates that endangered species surveys will be conducted “as warranted”. **EPA recommends** that NPS consult with the USFWS on the frequency required for surveys prior to the commencement of construction activities.

Page 90 of the DEIS includes information on Water Resources. **EPA recommends** stringent water quality BMPs, including geo-tech fabric, coconut fiber matting, and potentially Polyacrylamide (PAM) near steep slopes to help prevent off-site soil erosion and sedimentation into creeks, rivers and other water bodies.

Concerning the comments on Page 91, **EPA recommends** that the USACE be contacted by the NPS to assist in the Section 404 wetland jurisdictional delineations.

Page 91 of the DEIS discusses soils and other geological information along the BRP. This section does not include any discussion of identification of acid-bearing rocks, including pyritic shale and other high sulfur-bearing rocks. Acid drainage from exposed rock faces following construction can potentially cause long-term and significant environmental degradation to downstream waters. **EPA recommends** the FEIS identify known geologic formations that may present this long-term impact to waters of the U.S.

Page 126 of the DEIS states: “*Impacts on Federal and state listed species have not been analyzed in terms of parkway segments or recreation areas*”. **EPA recommends** direct and timely coordination with the USFWS on Federally-listed species, including detailed Section 7 analysis for each segment of the BRP for the Preferred Alternative.

Page 130 discusses Routine Dredging for James River/Otter Creek- **EPA recommends**



that more information be provided. It is unclear if the dredging is related to NPS activities. Can these impacts be avoided or minimized?

Page 131 Peaks of Otter- the DEIS states that the management of developed area would result in long term adverse and local impacts to floodplain, riparian areas, wetlands and water quality. **EPA recommends** that more information be provided related to these impacts and avoidance and minimization measures be considered.

Page 202 of the DEIS uses both meters and miles in the same paragraph. **EPA recommends** consistent units of measure should be employed.

Page 207 of the DEIS indicates that there are counties in non-attainment with the Clean Air Act for ozone in both NC and VA. Alternative B encourages greater RV usage along the BRP. **EPA recommends** the NPS identify mitigative measures to reduce potential increased pollutant emissions (e.g., Solar powered electrical sources).

Page 208: "*Air pollution sources from within the parkway is also expected to continue to contribute to poor air quality, with the major contributor being motor vehicle emissions from visitors and commuters traveling the parkway*". **EPA recommends** NPS should look to develop other options that reduce reliance on automobiles and that favor other forms of recreational transportation for visitors (i.e. Bicycles).

Page 285 of the DEIS utilizes 2007 U.S. Census data. **EPA recommends** the NPS use more recent 2010 U.S., Census data. Future population and growth estimates based upon past growth trends may not be realistic considering economic conditions in western NC and VA.

Pages 296 and page 314 - Cumulative impacts discussions are very vague. **EPA recommends** the FEIS should address all other activities in more detail and how these activities relate to the proposed project. This analysis should also include the extended visitor season, proposed upgrades, and potential secondary development.

Page 329 indicates that poaching may increase with Alternative B, including providing greater accessibility to unique and rare habitats with new trails. **EPA recommends** the NPS should recommend appropriate mitigative strategies to off-set this potential illegal activity resulting from the Preferred Alternative.

Page 565 includes a statement regarding 'possible alternative transportation systems' including buses and shuttles to address impairment to air quality resulting from Alternative B. EPA does not understand how there will be a future use of buses and shuttles under the current Preferred Alternative.

We rate this document LO (Lack of Objections). However, as noted above, additional information, data, analyses, or discussion should be included in the FEIS.

We appreciate the opportunity to review the proposed action. Please contact Ken Clark of my staff at (404) 562- 8282 if you have any questions or want to discuss our comments further.

Sincerely,

A handwritten signature in cursive script, appearing to read "H. Mueller", with a long horizontal flourish extending to the right.

Heinz J. Mueller, Chief  
NEPA Program Office  
Office of Policy and Management



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
6669 Short Lane  
Gloucester, Virginia 23061

MAY 11 2012

### Memorandum

To: Superintendent, Blue Ridge Parkway, Asheville, North Carolina  
(Attn: Suzette Molling, Environmental Protection Specialist)

From: Supervisor, Virginia Field Office, Gloucester, Virginia *Cynthia A. Schuyler*

Subject: Blue Ridge Parkway Draft General Management Plan/Environmental Impact Statement, Multiple Counties, Virginia and North Carolina

The U.S. Fish and Wildlife Service received your email on April 4, 2012 requesting concurrence on the section 7 determinations in the Draft General Management Plan/Environmental Impact Statement for the Blue Ridge Parkway dated October 2011. The following comments are provided under provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended, the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended, and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250) as amended.

We support your efforts to manage the park using a regional approach (Alternative B) and to identify and prioritize land management activities more protective of threatened and endangered species.

Page 199, Table 22: The table is correct in stating the bald eagle (*Haliaeetus leucocephalus*) has been delisted under the Endangered Species Act. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act. We recommend clarifying this distinction in the table.

We concur with your section 7 determinations for the species listed in Alternatives A, B, and C, in Tables 47, 48, and 49 on pages 326-334 of the Draft General Management Plan/Environmental Impact Statement. We have determined that no impacts to federally designated critical habitat will occur and no Bald and Golden Eagle Protection Act permit is required.

When individual projects contemplated in the General Management Plan are at the initial planning stage, use our online project review system to assist in the selection of specific site locations or in the design of project plans. Use of our online project review system will ensure the proposed project is compliant with the Endangered Species Act. This process allows the user

to define work areas and identify proposed and listed species and proposed and designated critical habitat that may occur in the area. The online project review process can be found at: [http://www.fws.gov/northeast/virginiafield/Project\\_Reviews.html](http://www.fws.gov/northeast/virginiafield/Project_Reviews.html).

In some instances, through use of the online project review process, a determination of "may adversely affect" will be made and formal consultation will be necessary. In those instances the U.S. Fish and Wildlife Service will conduct formal consultation with the National Park Service and issue a biological opinion for that particular project.

We have provided comments for the Virginia portion of the Blue Ridge Parkway. Please contact the U.S. Fish and Wildlife Service office in Asheville, North Carolina for comments on the portion of the Blue Ridge Parkway in North Carolina. If you have any questions for the Virginia portion of the Blue Ridge Parkway, please contact Sumalee Hoskin of this office at (804) 693-6694, extension 128, or via email at [sumalee\\_hoskin@fws.gov](mailto:sumalee_hoskin@fws.gov).

cc: Service, Asheville, NC (Attn: Alan Ratzlaff)



## COMMONWEALTH of VIRGINIA

### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

TDD (804) 698-4021

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4000  
1-800-592-5482

December 12, 2011

Mr. Philip A. Francis, Jr.  
Superintendent  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

RE: Draft General Management Plan/Environmental Impact Statement, Blue Ridge Parkway (DEQ-11-172F)

Dear Mr. Francis:

The Commonwealth of Virginia has completed its review of the above-referenced draft environmental impact statement (EIS) and draft general management plan. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. The following agencies and planning district commissions joined in this review:

- Department of Environmental Quality
- Department of Game and Inland Fisheries
- Department of Agriculture and Consumer Services
- Department of Conservation and Recreation
- Department of Health
- Marine Resources Commission
- Department of Forestry
- Mount Rogers Planning District Commission
- Central Shenandoah Planning District Commission

The Department of Transportation, Department of Historic Resources, Department of Mines, Minerals and Energy, Roanoke Valley-Alleghany Regional Commission, West

Piedmont Planning District Commission, Virginia Region 2000 Local Government Council, and Thomas Jefferson Planning District Commission also were invited to comment.

## **PROPOSED FEDERAL ACTION**

According to the draft general management plan and EIS, the Blue Ridge Parkway, established in 1936 by an act of Congress, has been administered by the National Park Service (NPS) pursuant to a master plan and parkway land use maps as well as applicable laws and policies. A general management plan is now needed because the master plan is outdated, and because the parkway faces an increasing array of issues requiring guidance through an approved general management plan. Specifically, a general management plan is intended to:

- Clearly define resource conditions and visitor experiences to be achieved;
- Provide a framework for decision-making by NPS managers on resource protection, visitor experience opportunities, managing visitor use, and what kinds of facilities are needed, if any, along the parkway; and
- Ensure that this foundation is developed in consultation with interested stakeholders and adopted by NPS managers after adequate analysis of benefits, impacts, and costs of alternative courses of action.

The associated draft EIS is mandated by NEPA and its implementing regulations (40 CFR Parts 1500 through 1508). The EIS describes three alternatives:

- Alternative A: No action (continue current management); or
- Alternative B: NPS-preferred alternative, combining newer law and policy requirements with the parkway concept developed in the parkway's first twenty years (1936-55), enhancing resource protection and connectivity, and building stronger connections with adjacent communities; or
- Alternative C: Greater integration with regional resources and economy, including the establishment of management zones detailing acceptable resource conditions, visitor experience and use levels, and appropriate activities.

## **Future Site-Specific Reviews**

Once the general management plan has been approved, additional feasibility studies and more detailed planning and environmental documentation would be completed, as appropriate, before any proposed actions can be carried out. The EIS states that the action alternatives are described in a general, conceptual nature, and the impacts of these actions are analyzed in general qualitative terms. If and when site-specific developments or other actions are proposed for implementation subsequent to this general management plan, appropriate detailed environmental and cultural compliance documentation would be prepared in accordance with NEPA and National Historic Preservation Act requirements. DEQ will coordinate future site-specific environmental documents when they become available.

## ENVIRONMENTAL IMPACTS AND MITIGATION

**1. Water Quality and Wetlands.** The EIS (pages 204 and 205) describes water resources, including wetlands, on parkway lands. The EIS (page 349) states that the preferred alternative's contribution to cumulative impacts would be small for adverse effects and considerable for beneficial effects. The adverse impacts would result from increased areas of recreational resources, new visitor amenities and trail development near wetlands. The beneficial impacts would result from expanded land protection strategies, restoration of water-related resources and closing or relocating visitor amenities away from sensitive areas.

**1(a) Agency Jurisdiction.** The State Water Control Board promulgates Virginia's water regulations, covering a variety of permits to include Virginia Pollutant Discharge Elimination System Permit (VPDES), Virginia Pollution Abatement Permit, Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit. The VWP Permit is a state permit which governs wetlands, surface water and surface water withdrawals/impoundments. It also serves as § 401 certification of the federal Clean Water Act § 404 permits for dredge and fill activities in waters of the United States. The VWP Permit Program is under the Office of Wetlands and Water Protection and Compliance within the DEQ Division of Water Quality Programs. In addition to central office staff who review and issue VWP Permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities.

**1(c) Agency Recommendations.** The following recommendations may be useful in planning site-specific projects. In general, DEQ recommends that stream and wetland impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts to wetlands and waterways when planning for land-disturbing activities, DEQ recommends the following practices:

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable.
- Preserve the top 12 inches of material removed from wetlands for use as wetland seed and root-stock in the excavated area.
- Design erosion and sedimentation controls in accordance with the most current edition of the *Virginia Erosion and Sediment Control Handbook*. These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to state waters. The controls should remain in place until the area is stabilized.
- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub or forested). The applicant should take all

appropriate measures to promote revegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed.

- Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats or geotextile fabric in order to prevent entry in state waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of that construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state.
- Clearly flag all non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading or filling activities and mark them for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no activities are to occur.
- Employ measures to prevent spills of fuels or lubricants into state waters.

**1(d) Requirement.** The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the Corps.

## **2. Subaqueous Lands.**

**2(a) Agency Jurisdiction.** The Virginia Marine Resources Commission (VMRC) regulates encroachments in, on or over state-owned subaqueous beds as well as tidal wetlands pursuant to § 28.2-1200 through 1400 of the *Code of Virginia*.

The VMRC serves as the clearinghouse for the Joint Permit Application (JPA) used by the:

- Corps for issuing permits pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act;
- DEQ for issuance of a VWP permit;
- VMRC for encroachments on or over state-owned subaqueous beds as well as tidal wetlands; and
- local wetlands board for impacts to wetlands.

The VMRC will distribute the completed JPA to the appropriate agencies. Each agency will conduct its review and respond.

**2(b) Agency Comments.** For planning activities in Virginia, any jurisdictional impacts and permitting will be reviewed by VMRC during the JPA process. Pursuant to Section 28.2-1200 *et seq.* of the Code of Virginia, VMRC has jurisdiction over any encroachments in, on or over the beds of the bays, ocean, rivers, streams or creeks which are the property of the Commonwealth. Accordingly, if any portion of future projects involve any encroachments channelward of ordinary high water along natural



rivers and streams above the fall line or mean low water below the fall line, a permit may be required from VMRC.

### **3. Erosion and Sediment Control, and Stormwater Management.**

**3(a) Agency Jurisdiction.** The Department of Conservation and Recreation (DCR) Division of Stormwater Management administers the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R) and Virginia Stormwater Management Law and Regulations (VSWML&R).

#### **3(b) Recommendations.**

- For projects that are proposed in the approved plan which involve land disturbance, NPS must ensure that future site-specific projects are in accordance with the following laws and regulations, as applicable:
  - Virginia Erosion and Sediment Control Law §10.1-563.D;
  - Virginia Erosion and Sediment Control Regulations §4VAC50-30-30 and §4VAC50-30-40;
  - Virginia Stormwater Act §10.1-603.1 *et seq.*;
  - Virginia Stormwater Management Program Permit Regulations §4VAC50 *et seq.*
- Site-specific environmental documents should adequately describe site conditions, potential impacts, protection and mitigation methods, permitting and regulatory requirements, including local requirements, and any other applicable information.

Questions regarding annual erosion and sediment control specifications should be directed to DCR (Larry Gavan at 804-786-4508). Specific questions regarding the VSMP General Permit for Construction Activities requirements should be directed to DCR (Holly Sepety at 804-225-2613). Detailed comments from DCR are attached for guidance.

### **4. Air Quality Impacts.**

**4(a) Agency Jurisdiction.** The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that become Virginia's Air Pollution Control Law. DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary

sources in the region as well as monitoring emissions from these sources for compliance. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

**4(b) Agency Finding.** According to the DEQ Air Division, the project location is in an ozone attainment area.

**4(c) National Ambient Air Quality Standards.** The primary goals of the federal Clean Air Act are the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration of air quality in areas cleaner than the NAAQS. The NAAQS establish the maximum limits of pollutants that are allowed in the outside ambient air. The Environmental Protection Agency (EPA) requires the submission of a State Implementation Plan (SIP) that includes laws and regulations necessary to enforce the plan and shows how the air pollution concentrations will be reduced to levels at or below these standards (attainment). Once pollution levels are within the standards, the SIP must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (maintenance).

The standards have been attained for most pollutants in most areas. However, attainment for the pollutant, ozone, has proven problematic. While ozone is needed at the earth's outer atmospheric layer to protect us from the sun's ultraviolet and other harmful rays, excess concentrations at the surface have an adverse effect on animal and plant life. Ozone is formed by a chemical reaction between volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. When VOC and NO<sub>x</sub> emissions are reduced, ozone is reduced.

**4(d) Agency Recommendation.** Site-specific documentation should address the applicable regulatory requirements for air emissions due to the construction and operation of any proposed facility, including 9VAC5-50-60 *et seq.* governing fugitive dust emissions and 9VAC5-130 *et seq.* for open burning.

## **5. Solid and Hazardous Wastes, and Hazardous Materials.**

**5(a) Agency Jurisdiction.** Solid and hazardous wastes in Virginia are regulated by DEQ, the Virginia Waste Management Board and EPA. They administer programs created by the federal Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response Compensation and Liability Act, commonly called Superfund, and the Virginia Waste Management Act. DEQ administers regulations established by the Virginia Waste Management Board and reviews permit applications for completeness and conformance with facility standards and financial assurance requirements. All Virginia localities are required, under the Solid Waste Management Planning Regulations, to identify the strategies they will follow on the management of their solid wastes to include items such as facility siting, long-term (20-year) use, and alternative programs such as materials recycling and composting.

**5(b) Database and Data File Search.** The DEQ Division of Land Protection and Revitalization (formally the Waste Division) (DLPR) states that the EIS did not address potential solid and/or hazardous waste issues or indicate that DEQ's databases were searched or that information was obtained from DEQ's databases. The DLPR conducted a cursory review of its database files, including a Virginia Environmental Geographic Information System (VEGIS) database search, of the area and determined that a few facility waste sites of concern were located within or a half-mile radius or distance of the parkway; however, potential impact of the identified sites to future projects should be further evaluated, if not done already.

### **Hazardous Waste Facilities**

No RCRA facility sites are inventoried under the DEQ's VEGIS; however, no RCRA facility sites are believed to be located within one-half-mile of the parkway. A search of the Environmental Protection Agency's (EPA) RCRAInfo database under zip codes under large quantity generators (LQGs) and permitted treatment, storage, disposal (TSD) facilities under the RCRA regulations would identify potential RCRA facility sites which may be in close proximity to the parkway.

### **Solid Waste Facilities**

A search of the DEQ's Solid Waste Sites Inventory found the following facility:

- SWP581, Country South LLC – CDD Landfill, 7390 Merriman Road, Boones Mill, VA, 24015, Solid Waste Unit Status – Active, Solid Waste Permit Status – Permitted

### **CERCLA Sites**

No Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites are inventoried under the DEQ's VEGIS; however, no CERCLA facility sites are believed to be located within 0.5 miles of the parkway. A search of the EPA's CERCLIS database under specific zip codes would identify potential CERCLA facility sites which may be in close proximity to the parkway.

### **FUDS Sites**

No Formally Used Defense Sites (FUDS) are inventoried under the DEQ's VEGIS; however, no FUDS are believed to be located within 0.5 miles of the parkway.

### **VRP Sites**

A search of the DEQ's Voluntary Remediation Program (VRP) facility sites within 0.5 miles of the parkway under the VEGIS found no VRP facilities.

### **Petroleum Release Sites**

A search of the DEQ's petroleum release facility sites within 0.5 miles of the project site parkway under the VEGIS found the following facilities:

- Afton Convenience Store, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 19985040, 4/06/2006, Status – Release Confirmed, Case Closed.
- Afton Convenience Store, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 19975124, 4/06/2006, Status – Release Confirmed, Case Closed.
- Afton Mountain Chevron, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 19921472, 4/06/2006, Status – Release Suspected, Case Closed.
- Afton Mountain Chevron, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 19900670, 4/06/2006, Status – Release Confirmed, Case Closed.
- Afton Mountain Chevron, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 20036068, 6/15/2007, Status – Release Confirmed, Case Closed.
- Afton Convenience Store, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 19995219, 6/15/2007, Status – Release Confirmed, Case Closed.
- Afton Convenience Store, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 20086093, 3/26/2008, Status – Release Confirmed, Case Closed.
- Afton Convenience Store, 5186 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 20076153, 6/15/2007, Status – Release Confirmed, Case Closed.
- Margaret Blacmon Property, 4486 Howardsville Turnpike, Afton, VA, 22920, DEQ PC No. 20106008, 9/24/2009, Status – Release Confirmed, Case Closed.
- Montebello Maintenance Area, 2551 Mountain View Road, Montebello, VA, 24179, DEQ PC No. 19931195, 5/24/2006, Status – Release Confirmed, Case Closed.
- James River Blue Ridge Parkway, 1184 Bellamy Creek Lane, Big Island, VA, 24526, DEQ PC No. 19941603, 6/04/2009, Status – Release Confirmed, Case Closed.
- Bedford Air Rote Surveillance Radar, Apple Orchard Mountain, Blue Ridge Parkway, Bedford, VA, 24523, DEQ PC No. 20102044, 9/21/2009, Status – Release Confirmed, Case Closed.

- Blue Ridge Parkway Maintenance Facility, 85919 Blue Ridge Parkway, Bedford, VA, 24523, DEQ PC No. 19911886, 7/31/2009, Status – Release Confirmed, Case Closed.
- Peaks of Otter SS, Milepost 86, Blue Ridge Parkway, Bedford, VA, 24523, DEQ PC No. 19901484, 9/07/2006, Status – Release Confirmed, Case Closed.
- Well, 131 Walker Street, Roanoke, VA, 24018, DEQ PC No. 20002094, 5/29/2009, Status –Release Suspected, Case Closed.
- Coyner Springs Exxon, 645 Blue Ridge Boulevard, Blue Ridge, VA, 24012, DEQ PC No. 19890469, 6/10/2008, Status - Release Confirmed, Case Closed.
- Coyner Springs Exxon, 645 Blue Ridge Boulevard, Blue Ridge, VA, 24012, DEQ PC No. 20012099, 6/19/2009, Status – Release Suspected, Case Closed.
- J & J Market, 1950 Blue Ridge Boulevard, Blue Ridge, VA, 24064, DEQ PC No. 19860366, 8/02/2006, Status – Release Confirmed, Case Closed.
- Garnand Residence, 4964 Glade Creek Road, Roanoke, VA, 24012, DEQ PC No. 20112012, 7/26/2010, Status – Release Confirmed, Case Closed.
- Bulk Storage Facility, 2516 Mountain View Avenue, Stewartsville, VA, 24179, DEQ PC No. 20002070, 1/26/2006, Status – Release Confirmed, Case Closed.
- Bulk Storage Facility, 2516 Mountain View Avenue, Stewartsville, VA, 24179, DEQ PC No. 19911420, 2/28/2008, Status – Release Confirmed, Case Closed.
- Nancy Pritchard Residence, 18025 Stewartsville Road, Vinton, VA, 2419, DEQ PC No. 20082013, 8/23/2007, Status – Release Suspected, Case Closed.
- Roanoke Valley Sanitary Landfill, Rutrough Road, Roanoke, VA, (No zip code), DEQ PC No. 20012109, 9/16/2010, Status – Release Confirmed, Case Closed.
- April Brown Residence, 2720 Rutrough Road, Roanoke, VA, 24014, DEQ PC No. 20082043, 2/19/2008, Status – Release Suspected, Case Closed.
- Pauline A. Musser Residence, 3333 Alcoa Road, Roanoke, VA, 24014, DEQ PC No. 20042011, 4/14/2010, Status – Release Confirmed, Case Closed.
- Tracy Huffman Residence, 3413 Ventnor Road, Roanoke, VA, 24014, DEQ PC No. 20102132, 3/15/2010, Status – Release Confirmed, Case Closed.
- Former Buck Mountain Grill Property, 5002 Franklin Road, Roanoke, VA, 24014, DEQ PC No. 20032059, 9/27/2006, Status – Release Confirmed, Case Closed.

- Ronald Rhodes Property, 3640 Sndlewood Road, Roanoke, VA, 24014, DEQ PC No. 19921976, 9/09/2010, Status – Release Confirmed, Case Closed.
- Virginia Asphalt Paving Company, Inc. – Shop, Eagle Crest Drive, Roanoke, VA, 24014, DEQ PC No. 19981050, 2/23/2011, Status – Release Confirmed, Case Closed.
- Roden Rental Property, 4459 Keefer Road, SW, Roanoke, VA, 27018, DEQ PC No. 20022038, 9/28/2006, Status – Release Confirmed, Case Closed.
- Reeds Garage, Inc., 9564 Floyd Highway N, Copper Hill, VA, 24079, DEQ PC No. 19944141, 8/17/06, Status – Release Confirmed, Case Closed.
- Hodge Podge Store, U.S. Route 58, Meadows of Dan, VA, 24120, DEQ PC No. 19981070, 2/24/2011, Status – Release Confirmed, Case Closed.
- Pruitt's Store, Route 2, Hillsville, VA, 24343, DEQ PC No. 19930187, 2/24/2009, Status –Release Suspected, Case Closed.
- Spencer Knitting Mill, Route 2, Box 320, Hillsville, VA, 24343, DEQ PC No. 19960217, 3/27/2009, Status – Release Suspected, Case Closed.
- Emmitt Meredith Residence, 2123 Skyview Drive, Fancy Gap, VA, 24328, DEQ PC No. 20091013, 11/18/2008, Status – Release Confirmed, Case Closed.
- Allen Victor Residence, 174 Foggy Ridge Lane, Fancy Gap, VA, 24328, DEQ PC No. 20021090, 6/26/2006, Status – Release Suspected, Case Closed.

**5(c) Agency Recommendations.**

- For planning purposes, DEQ encourages all construction projects and facilities to implement pollution prevention principles, including:
  - the reduction, reuse and recycling of all solid wastes generated; and
  - the minimization and proper handling of generated hazardous wastes.
- For future site-specific projects, further evaluate identified potential waste sites of concern to the parkway and/or potential impact to the parkway, if not already done.
- For future projects, identify the potential zip codes which are in the project area and use the following EPA RCRAInfo database search tool ([www.epa.gov/enviro/facts/rcrainfo/search.html](http://www.epa.gov/enviro/facts/rcrainfo/search.html)) in order to search for potential RCRA facility sites by zip code, and by LQG, or TSD facilities. Should any RCRA facility sites be identified which may be located within close proximity to the project area,

contact the DEQ's Waste Program Manager at the appropriate DEQ regional office for further RCRA facility information. The DEQ regional contacts may be found on the DEQ website at [www.deq.virginia.gov/regions](http://www.deq.virginia.gov/regions).

- Should any solid waste disposal facility sites (closed or permitted) be identified which may be located within a future site-specific project area, contact the DEQ's Waste Program Manager at the appropriate DEQ regional office ([www.deq.virginia.gov/regions](http://www.deq.virginia.gov/regions)).
- For future projects, identify the potential zip codes which are in the project area and use the following EPA database search tool, [www.epa.gov/superfund/sites/cursites/index.htm](http://www.epa.gov/superfund/sites/cursites/index.htm), to search for potential CERCLA facility sites. If any CERCLA sites are found to be in close proximity to a future site-specific project, then further information regarding the identified CERCLA sites may be necessary.
- For future site-specific projects, the identified petroleum releases should be evaluated by the project engineer or manager to establish the exact location of the release and the nature and extent of the petroleum release and the potential to impact the proposed project. The facility representative should contact the appropriate regional office for further information and the administrative records of the cases.
- Site-specific projects should discuss measures proposed to reduce, reuse and recycle solid waste that will be generated during construction, how contamination (if applicable) on the property has been or will be addressed, applicable regulations and laws related to asbestos-containing materials and lead-based paint for any demolition associated with future construction, and applicable regulations and laws related to solid and hazardous waste management.

**6. Natural Heritage Resources.** The EIS (page 315) states that the implementation of the preferred alternative would contribute a considerable amount to the beneficial cumulative effects on wildlife and vegetation communities.

**6(a) Agency Jurisdiction.** The mission of DCR is to conserve Virginia's natural and recreational resources. The DCR Division of Natural Heritage's (DNH) mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act, 10.1-209 through 217 of the Code of Virginia, was passed in 1989 and codified DCR's powers and duties related to statewide biological inventory: maintaining a statewide database for conservation planning and project review, land protection for the conservation of biodiversity, and the protection and ecological management of natural heritage resources (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

**6(b) Agency Findings.** The DCR DNH states that it searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map.

According to the information currently in DCR DNH's files, several natural heritage resources have been documented within the Virginia portion of the Blue Ridge Parkway (see attached table, ArcGIS shapefiles and maps).

In addition, the Blue Ridge Parkway is situated on karst-forming carbonate rock within the counties of Bedford, Botetourt and Roanoke, and the City of Roanoke. The karst topography can be characterized by sinkholes, caves, disappearing streams, and large springs. Discharge of runoff to sinkholes or sinking streams, filling of sinkholes, and alteration of cave entrances can lead to surface collapse, flooding, erosion and sedimentation, groundwater contamination, and degradation of subterranean habitat for natural heritage resources.

The Roanoke River and Rock Castle Creek have been designated by the Department of Game and Inland Fisheries (DGIF) as Threatened and Endangered Species Waters and are located within the Blue Ridge Parkway boundaries. The species associated with the Roanoke River are the Orangefin madtom (*Noturus gilberti*, G2/S2/SOC/LT) and the Roanoke logperch (*Percina rex*, G1G2/S1S2/LE/LE) and in Rock Castle Creek the Roanoke logperch.

**6(c) Threatened and Endangered Plant and Insect Species.** Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and DCR, DCR has the authority to report for VDACS on state-listed plant and insect species.

- DCR states that the current activity will not affect any documented state-listed plants or insects.
- VDACS states that statements in the project document concerning endangered species were reviewed and compared to available information. No additional comments are necessary in reference to endangered plant and insect species.

**6(d) Natural Area Preserves.** DCR's files indicate the presence of Big Spring Bog State Natural Area Preserve, Grayson Glades Natural Area Preserve and Crawford's Knob Natural Area Preserve under its jurisdiction within two miles of the Blue Ridge Parkway.

**6(e) Agency Recommendations.**

- Contact the DCR DNH at (804) 786-7951 for an update on this natural heritage information if a significant amount of time passes before it is utilized since new and updated information is continually added to the Biotics Data System.
- Place all conservation sites and associated natural heritage resources into the "Special Natural Resource Management Zone" designation as defined on page 52 of the management plan to recognize their significance.



- Due to the legal status of the Roanoke logperch and Orange-fin madtom, coordinate with the U.S. Fish and Wildlife Service (FWS) and DGIF to ensure compliance with protected species legislation.

**7. Wildlife Resources.** The EIS (page 331) indicates that overall the implementation of Alternative B may affect federal threatened and endangered species but is not likely to cause an adverse effect.

**7(a) Agency Jurisdiction.** DGIF, as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code Title 29.1). DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S.C. sections 661 *et seq.*) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DGIF website at [www.dgif.virginia.gov](http://www.dgif.virginia.gov).

**7(b) Agency Comments.** DGIF states that during scoping for development of the plan and EIS in May 2008, DGIF sent the attached letter and associated trout stream list to the NPS. DGIF continues to support the comments and recommendations included in that letter. However, since the 2008 scoping period, NPS has updated Alternative B, the NPS-preferred alternative, to include using an ecosystem approach to resource management, implementing management zones, and actively pursuing partnerships with public and private entities to implement joint ventures in support of Parkway goals. In addition, Alternative B has been updated to include improved visitor access and experiences. As stated in DGIF's 2008 letter to NPS, DGIF supports managing the parkway in a manner that encourages ecosystem-based natural resource management and protection, improving visitor access, and providing additional recreational opportunities within the parkway.

DGIF states that it supports the following:

- the NPS's plan to be proactive in its inventory and management of natural resources and to establish a multi-year approach to natural resource project planning.
- the acquisition of properties adjacent to the Parkway for the purposes of protection of natural and recreational resources, in addition to other purposes, as well as working with partners to improve habitats external to the Parkway.
- the development of a natural resources protection program that includes implementing best management practices to protect sensitive species and habitats, using native species for all plantings, removing food-related items to reduce or prevent bear encounters, and species and habitat monitoring.
- the determination of Alternative B (considering its updates) as the NPS-preferred alternative.

As stated in the 2008 letter to the NPS, DGIF is willing to assist the NPS in efforts to enhance wildlife habitats and manage wildlife resources under its jurisdiction

**7(c) Agency Findings.** DGIF identified, in its 2008 letter to the NPS, those species and habitats DGIF has a particular interest in the NPS protecting and managing to support imperiled wildlife and provide recreational opportunities. (DGIF appreciates the NPS's interest in also protecting and managing these resources for these purposes.) As stated in the plan, wetlands known to support bog turtles, located primarily in Grayson, Carroll, and Floyd counties, and trout streams are particularly valuable resources located with the parkway and are deserving of protection.

DGIF recently documented a new peregrine falcon eyrie in western Virginia. The parkway and nearby lands contain cliff habitat suitable to support falcon nesting.

**7(d) Agency Recommendations.** DGIF has the following recommendations:

- Regarding the protection of wetlands, develop and perform cattle crossings over streams or wetlands and ditching projects in a manner protective of those resources and that wherever possible restrict access that cattle have to streams and wetlands.
- Regarding the recently documented peregrine falcon eyrie, protect the species' habitats and monitor them for peregrine falcon nesting.
- Manage all habitats within parkway boundaries that are known to support imperiled wildlife for their protection.
- Coordinate with DGIF regarding management of wildlife in the parkway, access to the parkway for fishing and wildlife watching, access from the parkway to adjacent lands for hunting, and the avoidance and minimization of impacts upon wildlife and their habitats during specific restoration or management projects.

**8. Historic and Architectural Resources.** The EIS (page 371) states that implementation of the preferred alternative (Alternative B) would include minor to moderate adverse impacts on some historic structures that could result in an adverse effect at some sites. The EIS (page 371) indicates that implementation of Alternative B would result in long-term beneficial cumulative impacts.

**8(a) Agency Jurisdiction.** DHR conducts reviews of projects to determine their effect on historic structures or cultural resources under its jurisdiction. DHR, as the designated State's Historic Preservation Office, ensures that federal actions comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulation at 36 CFR Part 800. The preservation act requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. Section 106 also applies if there are any federal involvements, such as licenses, permits, approvals or funding. DHR also provides comments to DEQ through the state environmental impact report review process.

**8(b) Agency Comments.** DHR did not respond to DEQ's request for comment.

**8(c) Agency Recommendation.** Coordinate the project or any portion thereof with DHR (Roger Kirchen at [Roger.Kirchen@dhr.virginia.gov](mailto:Roger.Kirchen@dhr.virginia.gov)), as the designated Virginia SHPO, to ensure compliance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 CFR 800.

## 9. Recreational Resources.

**9(a) Agency Jurisdiction.** DCR's Division of Planning and Recreational Resources (DPRR) administers the Virginia Scenic Rivers, Virginia Byways, and state trails programs and is responsible for developing the Virginia Outdoors Plan (VOP), the state's comprehensive outdoor recreation and open space plan. The VOP recognizes the importance of scenery to Virginians and many of the top ten activities are water based.

**9(b) Agency Findings.** DCR DPRR notes that the draft plan does not mention that the Blue Ridge Parkway is a federally designated "All American Road". This designation helps to identify the scenic resource for local citizens and tourists. This recognition does not counter any of the proposed actions; however, it does address the planning issues and concerns raised by the corridor management plan required by the Federal Highway Administration for national designation, which can provide additional funding for resource protection and other activities under the Scenic Byway funding program. Additionally, the draft plan does not identify the designated, and proposed, Virginia Byways that intersect or cross the parkway, including routes 56, 661, 250, 130, 43, 402, 640, 58 and potential Route 8.

**9(c) Agency Recommendation.** DCR DPRR recommends that the draft plan include the "All American Road" and "Scenic Byway" designations since driving for pleasure is a recognized pastime for most Virginian's according to the 2007 Virginia Outdoors Plan.

Contract DCR (Jennifer Wampler at [Jennifer.Wampler@dcr.virginia.gov](mailto:Jennifer.Wampler@dcr.virginia.gov)) for additional information about these comments and recommendations.

## 10. Water Supply.

**10(a) Agency Jurisdiction.** The Virginia Department of Health (VDH) Office of Drinking Water (ODW) reviews projects for the potential to impact public drinking water sources (groundwater wells, springs and surface water intakes).

**10(b) Agency Findings.** VDH ODW states that an extensive listing of public water sources (attached) in proximity of the Parkway centerline was provided during a previous review of a parkway project. No specific plans for providing water and potable water to described upgrades and/or additions have been provided in the plan.

**10(c) Requirements.** VDH ODW states that plans requiring changes to potable water facilities and/or water supply must be coordinated with the local VDH ODW Field Office for review and approval.

Contact VDH ODW (Barry Matthews at [Barry.Matthews@vdh.virginia.gov](mailto:Barry.Matthews@vdh.virginia.gov)) for additional information.

**11. Agricultural Lands.** The EIS (page 28) states that the alternative would have no effect or a negligible effect on farmlands. This topic was dismissed from comprehensive consideration in the document.

**11(a) Agency Jurisdiction.** The Virginia Department of Agriculture and Consumer Services (VDACS) Office of Farmland Preservation works to prevent the loss of farmlands.

**11(b) Agency Recommendation.** VDACS encourages the minimal transfer of agricultural land to non-agricultural purposes in the development of this project.

## **12. Forest Resources.**

**12(a) Agency Jurisdiction.** The mission of the Virginia Department of Forestry (DOF) is to protect and develop healthy, sustainable forest resources for Virginians. DOF was established in 1914 to prevent and suppress forest fires and reforest bare lands. Since the Department's inception, it has grown and evolved to encompass other protection and management duties including: protecting Virginia's forests from wildfire, protecting Virginia's waters, managing and conserving Virginia's forests, managing state-owned lands and nurseries, and managing regulated incentive programs for forest landowners.

**12(b) Agency Finding.** DOF finds no significant impact to the forest resources of the Commonwealth for following the preferred alternative (B) within the plan.

**13. Pollution Prevention.** DEQ advocates that principles of pollution prevention be used in all construction projects as well as in facility operations. Effective siting, planning and on-site best management practices will help to ensure that environmental impacts are minimized. However, pollution prevention techniques also include decisions related to construction materials, design and operational procedures that will facilitate the reduction of wastes at the source.

**13(a) Agency Recommendations.** We have several pollution prevention recommendations that may be helpful in planning for future construction:

- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider contractors' commitment to the environment when choosing

contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.

- Choose sustainable materials and practices for infrastructure and building construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.

The DEQ Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques. If interested, please contact DEQ (Sharon Baxter at 804-698-4344) for more information.

**14. Pesticides and Herbicides.** In general, when pesticides or herbicides must be used, their use should be strictly in accordance with manufacturers' recommendations. In addition, to the extent feasible, DEQ recommends that the responsible agent for the project use the least toxic pesticides or herbicides effective in controlling the target species. For more information on pesticide or herbicide use, please contact the Virginia Department of Agriculture and Consumer Services at (804) 786-3501.

**15. Local and Regional Comments.** As customary, DEQ invited the Roanoke Valley-Alleghany Regional Commission, Mt. Rogers Planning District Commission, West Piedmont Planning District Commission, Virginia Region 2000 Local Government Council, Central Shenandoah Planning District Commission and Thomas Jefferson Planning District Commission to comment.

**15(a) Jurisdiction.** In accordance with the Code of Virginia, Section 15.2-4207, planning district commissions encourage and facilitate local government cooperation and state-local cooperation in addressing, on a regional basis, problems of greater than local significance. The cooperation resulting from this is intended to facilitate the recognition and analysis of regional opportunities and take account of regional influences in planning and implementing public policies and services. Planning district commissions promote the orderly and efficient development of the physical, social and economic elements of the districts by planning, and encouraging and assisting localities to plan for the future.

**15(b) Comments.**

- The Central Shenandoah Planning District Commission states that it waives review of the project.
- The Mount Rogers Planning District Commission states that it supports the Blue Ridge Parkway's draft general management plan.
- The Roanoke Valley-Alleghany Regional Commission, Piedmont Planning District Commission, Virginia Region 2000 Local Government Council, and Thomas Jefferson Planning District Commission did not respond to DEQ's request for comment.

## REGULATORY AND COORDINATION NEEDS

**1. Solid and Hazardous Waste Coordination.** Contact the DEQ's Waste Program Manager at the appropriate DEQ regional office ([www.deq.virginia.gov/regions](http://www.deq.virginia.gov/regions)) for information regarding RCRA sites, solid waste disposal facility sites (closed or permitted), CERCLA sites, or petroleum release sites during development of site-specific environmental documents.

**2. Natural Heritage Resources.** Contact the DCR DNH at (804)371-2708 for an update on natural heritage information if a significant amount of time passes before site-specific documents are developed.

### **3. Wildlife Resources and Protected Species.**

- Coordinate with DGIF (Amy Ewing at [Amy.Ewing@dgif.virginia.gov](mailto:Amy.Ewing@dgif.virginia.gov)) regarding management of wildlife in the parkway, access to the parkway for fishing and wildlife watching, access from the parkway to adjacent lands for hunting, and the avoidance and minimization of impacts upon wildlife and their habitats during specific restoration or management projects.
- Coordinate with the DGIF (Amy Ewing at [Amy.Ewing@dgif.virginia.gov](mailto:Amy.Ewing@dgif.virginia.gov)) and FWS (804-693-6694) to ensure compliance with protected species legislation when preparing site-specific documents.

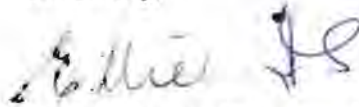
**4. Historic Resources.** Coordinate with DHR (Roger Kirchen at [Roger.Kirchen@dhr.virginia.gov](mailto:Roger.Kirchen@dhr.virginia.gov)), as the designated Virginia SHPO, to ensure compliance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 CFR 800.

**5. Site-specific Reviews.** Site-specific environmental documents should be submitted to the DEQ Office of Environmental Impact Review (Attention: Ms. Ellie Irons), P.O. Box 1105, Richmond, VA 23218. Please submit one hard copy for DEQ and each affected locality and associated planning district commission as well as 16 compact discs (CDs) with electronic copies or provide a website or FTP site for distribution during a coordinated review.

## CONCLUSION

Thank you for the opportunity to review the draft EIS and general management plan. Detailed comments of reviewing agencies are attached for your review and guidance. Please contact me at (804) 698-4325 or Julia Wellman at (804) 698-4326 for clarification of these comments.

Sincerely,



Ellie L. Irons, Program Manager  
Environmental Impact Review

## Enclosures

- cc: Wayne Strickland, Roanoke Valley-Alleghany Regional Commission  
Dave Barrett, Mt. Rogers Planning District Commission  
Aaron S. Burdick, West Piedmont Planning District Commission  
Gary F. Christie, Virginia Region 2000 Local Government Council  
Bonnie Riedesel, Central Shenandoah Planning District Commission  
Stephen Williams, Thomas Jefferson Planning District Commission
- ec: Amy Ewing, DGIF  
Keith Tignor, VDACS  
Robbie Rhur, DCR  
Barry Matthews, VDH  
Steve Coe, DEQ ORP  
Kotur S. Narasimhan, DEQ DAPC  
Kevin Harlow, DEQ BRRO  
Keith Fowler, VRO  
Teresa Frazier, SWRO  
Roger Kirchen, DHR  
James Cromwell/Alfred Ray, VDOT  
Tony Watkinson, VMRC  
Dan Bacon, VMRC



# WESTERN NORTH CAROLINA PUBLIC LANDS COUNCIL



8 December 2011

**Beverly Eaves Perdue**  
Governor

**Dee Freeman**  
Secretary  
Department of  
Environment &  
Natural Resources

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**Judith Francis, AICP**  
DENR Representative

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Dear Superintendent Francis,

The Western North Carolina Public Lands Council is writing to endorse Alternative B on the Blue Ridge Parkway General Management Plan (GMP)/EIS. On November 4<sup>th</sup>, the Council heard a presentation by David Anderson, a Landscape Architect from the Blue Ridge Parkway, concerning the GMP. Following the presentation, Council members Jonathan Douthit and Jason Robinson, who represent Swain County and Yancey Counties respectively (two counties that border the Parkway), reviewed the GMP more in depth and came to the conclusion that it was the best of the three alternatives.

The Council finds that Alternative B strikes a balance between updating aging infrastructure to encourage more tourism, but also strives to keep the ecological integrity of the 469-mile long park intact. We agree that reducing the number of roads that cross the Parkway "at grade" will reduce commuter traffic and help decrease development pressures at the edges of the park. We also agree that modest improvements to campsites, visitor centers, food concessions, and lodging are needed, but feel Alternative C's wholesale re-design would leave too large an ecological footprint and is simply too expensive in these lean economic times.

We are encouraged to see that Alternative B seeks to increase recreational activities, such as hiking, and includes planning for regional trail connections. We are also encouraged that the Parkway is pursuing Class I designation for air quality standards. Attaining Class I air quality designation, which is the same designation as Great Smoky Mountains National Park, will be an important first step in both increasing visitor's Parkway experience by decreasing haze and increasing visibility and protecting the park's diverse and rare high-elevation flora and fauna.

Finally, the Council is pleased to see that Alternative B addresses the importance of partnerships in managing the Blue Ridge Parkway. As you know, the citizens of western North Carolina have a vested interest in seeing the Blue Ridge Parkway not only continue to be both a place of recreation and refuge, but also continue to be a major economic engine for the region. It is only through partnerships that this delicate balancing act can be successful.

Sincerely,

Jason P. Love  
Chair

CC: Governor Beverly E. Purdue



# PEPC Project ID: 10419, Document ID: 43487

## Correspondence: 2472

### Author Information

Keep Private: No  
Name: Wayne G. Strickland  
Organization: Roanoke Valley-Alleghany Regional Commission  
Organization Type: C - County Government  
Address: 313 Luck Avenue SW  
Roanoke, VA 24016  
USA  
E-mail: wstrickland@rvarc.org

### Correspondence Information

Status: Reviewed                      Park Correspondence Log:  
Date Sent: 12/16/2011              Date Received: 12/16/2011  
Number of Signatures: 1              Form Letter: No  
Contains Request(s): No              Type: Web Form  
Notes:

### Correspondence Text

Comments: December 15, 2011

Superintendent Phil Francis  
Blue Ridge Parkway  
National Park Service

Re: Blue Ridge General Management Plan/EIS

Dear Superintendent Francis:

Thank you for providing the opportunity to comment on the Blue Ridge Parkway General Management Plan (GMP)/EIS. The Blue Ridge Parkway is recognized as a significant cultural, recreational, and economic asset in the greater Roanoke region. Given recent and likely future, budgetary constraints impacting the National Park Service, I am sure basic maintenance of the Parkway and associated amenities is an ongoing challenge and commend the NPS for working to improve management of the Parkway through development of the GMP.

While understanding the historical vision and purpose of the Blue Ridge Parkway, motorized vehicles should not be the only (or even preferred) way to experience the Blue Ridge Parkway. Instead, a range of active and passive recreational opportunities should be encouraged, beyond motor vehicle tourism, such as cycling, hiking, birding, horseback riding, running and other activities for visitors to the Parkway as well as local residents in communities near the Parkway. Review of the draft GMP plan and Alternatives presented and numerous auto-centric references within the document (i.e., "actively managed as a

traditional, self-contained, scenic recreational driving experience") tend to favor the driving experience over other uses along the Parkway.

Of the alternatives presented in the GMP, Alternative C, with modifications, is most consistent with the Roanoke region's general vision and desires as related to management and utilization of the Parkway. As such, please accept and consider the following comments and recommendations as part of the official record related to the GMP.

#### General Comments and Recommendations

Develop closer relationships with local communities and work with them throughout the planning process and continue to work with local stakeholders to address issues related to the Parkway as they arise (i.e., consult with local stakeholders to provide for reasonable and safe access for hikers, cyclists, and equestrians to the Parkway before closing social trails in the Roanoke area).

Work with localities and stakeholders to provide a seamless connection from the Parkway corridor and Roanoke utilizing the on-road accommodations (Mill Mountain Parkway Spur), existing parks (Mill Mountain), Mill Mountain trails (Chestnut Ridge Loop, Wood Thrush Trail, etc.), and greenways (Mill Mountain Greenway). Roanoke is the largest population center on the Parkway and greater connectivity would provide economic, health, recreation, and benefits to Parkway visitors, local residents, and businesses adjacent to the Parkway. Although under the jurisdiction of the NPS, the Mill Mountain Spur is also included in the RVAMPO Bikeway Plan as a "priority" corridor to serve as a link in this connection. Additionally, the Bikeway Plan supports allowing mountain biking on the Chestnut Ridge Loop Trail.

Not only allow, but encourage, cycling (and other active recreation) on the Parkway in the GMP. We clearly understand the Parkway is under the jurisdiction of the NPS, the Bikeway Plan for the Roanoke Valley Area Metropolitan Planning Organization (2012) lists the Parkway as a "priority" corridor for consideration for improvements to better accommodate cyclists on the Parkway itself, as well as mountain biking opportunities on Parkway lands (i.e., Chestnut Ridge). Increased accommodation could be achieved through shoulder improvements, spot improvements, signage, enforcement, etc.

Work with the local community to plan for and promote mountain bicycling and other non-motorized forms of recreation in the Park including opening Chestnut Ridge Loop to mountain biking. Local trail organizations and volunteers (i.e., Pathfinders for Greenways) stand ready to assist in trail development and maintenance. The NPS is also encouraged to consider a one-year trial period permitting mountain biking on the Chestnut Ridge Loop Trail, similar to the recently approved addition of mountain biking at a Parkway facility in North Carolina. Comments from the Roanoke region on the recent Blue Ridge Parkway/Roanoke Valley Trail Plan were overwhelmingly in support of allowing mountain biking on Chestnut Ridge Loop Trail.

Link Parkway trails to the Roanoke Valley Greenway system and work with the Roanoke Valley Greenway Commission to extend the Roanoke River Greenway to Explore Park as discussed in the Roanoke Valley Conceptual Greenway Plan (2007) and more recent planning efforts. Detailed comments regarding this issue were submitted by the Roanoke Valley Greenway Commission and other Roanoke area stakeholders during the public comment period for the Blue Ridge Parkway/Roanoke Valley Trail Plan.

Provide and/or expand information to better integrate the Parkway with surrounding communities. Information could include wayfinding/directional signage, trail information, activity centers, and

upcoming events specific to the Roanoke area.

Provide for continued NPS management of the Mill Mountain Parkway Spur Roanoke Mountain road and corridors. Maintenance of these corridors would present a significant financial burden to any local government (i.e., City of Roanoke) charged with their maintenance and general upkeep.

National Historic Landmark designation is currently not supported as it would potentially make it more difficult to make changes needed to encourage non-motorized travel and active recreation activities along the Parkway corridor.

#### Roanoke Mountain Campground

Do not close Roanoke Mountain Campground. Although currently underutilized, the Roanoke Mountain Campground is the only NPS maintained campground along the Roanoke portion of the Parkway and is an important asset for the Roanoke Region as we work to stimulate economic development for our region through promotion of the region's scenic beauty and outdoor recreation amenities. Additionally, the Virginia Department of Conservation and Recreation's Virginia Outdoor Plan indicates there is a demand for more campsites in the Roanoke area. According to the National Park Service website there are five campgrounds along the Virginia section of the Parkway with an average distance between them of 38 miles. Without Roanoke Mountain Campground, the average distance increases to 50.6 miles. Comparatively, there are nine camping areas in North Carolina with an average distance between them of 28.6 miles. Closing the campground puts not only Roanoke, but the entire state of Virginia and the Parkway at a disadvantage with regards to attracting motor vehicle (i.e., RV) and as well as cycling tourism to the Roanoke area. It is generally acknowledged that improvements (showers, electrical, water, etc.) to Roanoke Mountain Campground would be required to significantly increase usage. However, an urban campground within minutes of downtown Roanoke is an affordable option to hotels for families and other users of the Blue Ridge Parkway. Additionally, allowing mountain biking on the Chestnut Ridge Loop Trail would increase the marketability of the campground by positioning it as the premier camping area for both road cycling and mountain biking. It would also serve as a connection to downtown Roanoke, the largest population center along the Parkway.

The Blue Ridge Parkway, the most visited unit in the National Park system, is recognized as one of the primary outdoor recreation and tourism assets in the Roanoke region. I thank you for the opportunity to comment on the future of this critical regional asset and hope you the NPS will give careful consideration of these comments. The staff of the Regional Commission looks to working with NPS as the planning process continues. If there is anyway the Regional Commission can assist you and your staff, please do not hesitate to contact me.

Yours truly,

Wayne Strickland, Executive Director  
Roanoke Valley-Alleghany Regional Commission

# PEPC Project ID: 10419, Document ID: 43487

## Correspondence: 2379

### Author Information

Keep Private: No  
Name: Liz Belcher  
Organization: Roanoke Valley Greenway Commission  
Organization Type: C - County Government  
Address: 1206 Kessler Mill Road  
Salem, VA 24153  
USA  
E-mail: lbelcher@roanokecountyva.gov

### Correspondence Information

Status: Reviewed                      Park Correspondence Log:  
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Number of Signatures: 1              Form Letter: No  
Contains Request(s): No              Type: Web Form  
Notes:

### Correspondence Text

Topic Question 3:  
Superintendent Phillip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Re: Comments on the Draft General Management Plan/EIS

Dear Superintendent Francis:

The Draft General Management Plan (GMP) for the Blue Ridge Parkway is a beautiful document and reflects a great deal of work by staff. It has a wonderful summary of the Parkway history and a great deal of very interesting information on the Park resources.

The Roanoke Valley Greenway Commission and its Executive Committee have discussed the Plan several times and provide the comments herein. The Greenway Commission was established in 1997 by Intergovernmental Agreement by the Cities of Roanoke and Salem, Roanoke County, and the Town of Vinton. The Commission is appointed by the four localities. The original Roanoke Valley Conceptual Greenway Plan of 1995 was adopted by all four localities, and the 2007 Update to the Roanoke Valley Conceptual Greenway Plan has been incorporated into each of the local Comprehensive Plans. The Greenway Commission was established to oversee implementation of the plan and works continuously to develop trail linkages and partnerships to complete the greenway network.

1. In 2001 the Greenway Commission signed General Agreement #1443GA514001005 with the National Park Service for the Planning, Design, Construction, and Maintenance of the Roanoke Valley Greenway and Parkway Trail System. During the five years of this agreement, the Greenway Commission worked with Park staff to upgrade and maintain the Park trail network, in anticipation of increased use with connection to the Valley greenway system. The Commission spent over \$40,000 on sustainable trail construction, coordinated thousands of volunteer hours, and worked with a Park Service committee to assess all the Parkway trails in the Roanoke area and develop a draft Trail Management Plan (Jan 2004), which was later modified into the 2011 Roanoke Valley/Blue Ridge Parkway Trail Plan. Under the General Agreement the Parkway agreed to confer with the Commission regarding planned greenways that involve Parkway property and recognize the Greenway Commission as a lawfully organized body for the planning, design, maintenance, and construction of greenway projects in the Roanoke area. Greenway Commission members always attend Parkway public meetings in the Roanoke area.

Given this background, the Greenway Commission is surprised to find no mention in the GMP document or appendices of the regional Roanoke Greenway Plan or the Roanoke Valley Greenway Commission. While there is mention of the Parkway's Roanoke Trail Plan and of one of Roanoke's planned bicycle/pedestrian paths, there is no acknowledgement that this is part of a large regional planning effort that has been coordinated with the Parkway for many years. Other greenway plans for North Carolina communities are recognized.

## 2. Elements Missing from the GMP

- a. The GMP fails to acknowledge the issue of encroachment on Parkway lands. Right now the Parkway appears to be ignoring encroachments, failing to maintain boundaries, and failing to coordinate with local governments to prevent and correct encroachments such as buildings on Park property, mowing of Park woodlands, harvest and/or clearing of Park trees, dumping, discharge of stormwater, and other damage to Park resources.
- b. The GMP fails to address the critical need for law enforcement of speed limits and to acknowledge how such enforcement could reduce non-recreational overuse (commuting), reduce conflicts between bicyclists and motorized users, and improve recreational experiences.
- c. The GMP fails to acknowledge the impact of gasoline prices on the volume of users, length of stay, and service needs.
- d. The GMP ignores funding issues and fails to address how to manage the Park without the monies needed.
- e. The GMP does not address the Presidents Americas Great Outdoors initiative, which includes a goal to enhance recreational access and opportunities on public land. It is also inconsistent with the Call to Action: Preparing for a Second Century of Stewardship and Engagement Initiative of National Park Service director Jon Jarvis which challenges park managers to; (a) expand the use of our national parks for outdoor recreation, (b) connect parks in or near urban areas through public transportation and pedestrian and bike paths, and (c) decrease each parks carbon footprint.
- f. The GMP does not address the issues of carrying capacity, impact of crowding on visitor experience, and control of visitor experience through facility/parking limitation.
- g. The GMP states that management zones are the primary building block for reaching an approved management plan (p. 35), but yet declines to show such zones for Alternative A. Thus Alternative A has not been given due consideration and comparison to the other alternatives is difficult. While I understand that the Park is not currently operated with management zones, staff should have developed maps showing how current actions would be mapped under the zones developed for Alternatives B and C.

### 3. Preferred Alternative

Our preferred alternative is C, not B. Alternative B has too much focus on being self-contained and a traditional scenic driving experience. Alternative B:

- ignores that the modes and speeds of driving have changed significantly since 1936;
- ignores that land uses around the Park have changed;
- presents an isolationist approach that garners little constituent support and fails to utilize potential partners;
- ignores the many active recreationists who want to use the Park for healthy exercise;
- ignores the recreationists who want to enjoy the scenery without being in a vehicle;
- utilizes trail hardening and parking lot enlargement, instead of sustainable design techniques;
- proposes closing Roanoke Mountain campground, over the objections of local governments and citizens;
- focuses on tradition, but without fiscal reality.

Alternative C is preferred because it utilizes regional resources, supports local economies, recognizes the need for alternative transportation systems, emphasizes collaboration and flexibility, and integrates the Park into local cultural resources. It has the same direction as B in scenery conservation, land protection, natural resources, and cultural resources, but has better options for Interpretation and Visitor Services, Access, and Campgrounds.

### 4. Trail Management

- a. The Greenway Commission is concerned that there is so little discussion in the plan of sustainable trail design. While the GMP recognizes that trails are in poor condition and that this is a big issue to visitors (p. 254), it addresses that by hardening the trails, rather than by designing them sustainably. The Parkway has the most poorly designed trails in our region and uses asphalt to correct erosion problems, thus significantly altering the trail experience.
- b. The GMP fails to recognize the pivotal role of volunteers in sustainable trail design and maintenance.
- c. The GMP should initiate approval of bicycle use on non-paved surfaces.
- d. The GMP should encourage multi-use trails, including mountain bicycling, and recognize that horses have the most environmental impact on trails.
- e. The GMP should endorse the connection of the Parkway to regional trail networks, such as the Roanoke Valley Greenway system.
- f. New, sustainable trails should be allowed in Management Zone Natural.

### 5. Other Recommended Changes

- a. National Historic Landmark designation is the wrong way to protect the Parkway. This status will create obstacles and bureaucratic red tape, and entomb the Parkway in a virtual time capsule. Protect and maintain individual historic structures instead.
- b. Promote safe bicycling on the Parkway and alternative transportation modes.
- c. Open Chestnut Ridge Trail to mountain biking.
- d. Retain Roanoke Mountain Campground and improve it with showers and mountain biking opportunities.
- e. Continue the Parkway design features in any new buildings.
- f. Work with the Greenway Commission to facilitate completion of Roanoke River Greenway and of linkages to Mill Mountain Trails.

Thank you for the opportunity to comment.

Sincerely,

Liz Belcher  
Roanoke Valley Greenway Coordinator



File Code: 1950

Date: December 15, 2011

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

Dear Mr. Francis:

Thank you for giving managers at the National Forests in North Carolina (NFsNC) the opportunity to provide comments on the Draft General Management Plan for the Blue Ridge Parkway. We appreciate the close partnership we share as resource managers, and believe the proposed plan will offer us the opportunity to continue to strengthen this relationship.

- Mt. Pisgah Recreation Area: Management of spruce and fir around Mt. Pisgah should be emphasized including use of vegetation management techniques that increase the vigor of individuals and groups of the species.
- Future Studies and Management Plans Needed – Natural Resources (Page 101): It is strongly recommended that future resource strategies consider the use of active management to maintain and restore natural ecosystems. A prime example being the maturing oak forest on the landscape that has been subject to fire exclusion for 80 to 100 years.
- While we applaud the use of fire within the Parkway's management plan, its reintroduction is not the sole mechanism for restoration when mesic species have encroached into the overstory and are casting enough shade on the understory to prevent the development of advanced oak regeneration. Other cultural treatments such as herbicide and mechanical removal may be necessary where the objective is to restore/maintain the native system.
- Resource Protection Activities (page 301): The document mentions "limited" timber harvest on National Forest Service (NFS) lands within the Parkway viewshed. Consider replacing that phrase with something like... "The Parkway will work with the US Forest Service to insure that timber harvest on adjacent NFS lands will be implemented in a way that protects and maintains scenic views from the Blue Ridge Parkway."
- Alternative A – Environmental Consequences (page 305): We would like to see acknowledgement of the change in forest species composition that will occur if a no action alternative is selected. It is our estimation that a shift towards more mesic species would be counter to the NFS goal of restoration and maintenance of native vegetation.
- Environmental Consequences- Parkway Segments (311): In several instances the term "other types of resource stewardship" is used to encompass a vague list of management





actions. What types of actions fit into this category? Do they include a greater degree of options than researching, documenting (inventory and monitoring), and exotic species treatment? Are they defined within the document?

- Partnership Expansion: We applaud the desire expressed in the document to increase partner coordination especially where management options on adjacent lands are in the interest of Parkway goals and objectives. It is the hope of the National Forests in North Carolina to increase coordination where restoration of ecosystems extend across shared boundaries. Several pertinent examples include:
  - 1) NFS land on and surrounding Mt. Pisgah that is visible from the Parkway. This area represents a large portion of our shared landscape that is composed of declining, mature mixed oak forest that is being encroached by mesic, fire-intolerant species. This change in species composition is not desirable for the Parkway viewshed or NFS land management goals. However, it is highly unlikely that the NFS would undertake such a project without the involvement (or interest) by the Parkway.
  - 2) Unique ecosystems such as spruce/fir or table mountain/pitch pine forest communities that extend across boundaries and are considered in peril across their range in the southern Appalachians. There may be instances where management should cross boundaries to preserve a larger or more significant part of the ecosystem.
  - 3) American Chestnut Restoration: Some of the best restoration potential may exist along the interface of Parkway and NFS lands. The opportunities for future planting strategies should be explored in anticipation of production of resistant hybrids and solutions to out-planting complications.

Thank you for the opportunity to comment on the Management Plan. We look forward to cooperating with the Park Service in managing these special lands into the future. Your plan will help to accomplish these goals.

Sincerely,



MARISUE HILLIARD  
Forest Supervisor



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Asheville Field Office  
160 Zillicoa Street  
Asheville, North Carolina 28801  
Phone: (828) 258-3939 Fax: (828) 258-5330



April 12, 2012

Ms. Suzette Molling  
National Park Service  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

Dear Ms. Molling:

Subject: Environmental Impact Statement for the Blue Ridge Parkway's General Management Plan

We received your email of April 4, 2012, requesting our comments on the subject document. We previously provided comments on this project in a letter dated January 17, 2002, April 14, 2008 (via a form provided with your newsletter on the Preliminary Alternative), and July 10, 2008. The following comments are provided in accordance with the provisions of the National Environmental Policy Act; the Migratory Bird Treaty Act (16 U.S.C. 703-711); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543). Please note that our comments are relative to the portion of the Blue Ridge Parkway (Parkway) that occurs in North Carolina. Additional comments should be solicited from our Southwest Virginia Field Office in Abingdon, Virginia.

We support the two action alternatives (B and C) which involve "more proactive management of natural resources, incorporating long-term approaches, and advancing regional ecosystem health through active partnerships" rather than the no-action alternative which would address management needs on a case-by-case basis. Further, we concur with the North Carolina Wildlife Resources Commission's (NCWRC) comment on this project stating that the Parkway include a ". . . broader scope of habitat enhancement in the Craggies with a proactive ecosystem approach (consistent with alternatives B & C) while also recognizing the inherent, but not insurmountable, conflicts between management for balds species and forest dwelling species . . ." and that the Parkway develop a spruce restoration plan/project for the Craggies to restore ecosystem function and processes for listed species . . ." Although we are supportive of both alternatives B and C because of similar natural resource guidelines, like the NCWRC, we do have some potential

reservations with Alternative C if facility redesigns would increase the developed footprints and cause either (1) more loss of habitat to accommodate these facilities (especially within threatened and endangered species habitat) or (2) increased disturbance to species that are sensitive to disturbance.

Based on the information provided in the Environmental Impact Statement and a review of our records, we concur with your assessment that for each of the three alternatives, “no affect” and “may affect, not likely to adversely affect” determinations (as specified in Tables 47, 48 and 49) are appropriate for the species evaluated. Therefore, the requirements under section 7(c) of the Endangered Species Act are fulfilled. However, obligations under section 7 of the Endangered Species Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action. Also, please note that project-level planning may require further consultation under section 7.

In any future correspondence pertaining to this matter, please reference our Log Number 4-2-02-108. Questions regarding our comments should be directed to Mr. Allen Ratzlaff of our staff at 828/258-3939, Ext. 229.

cc:

Mr. David McHenry, Mountain Region Reviewer, North Carolina Wildlife Resources  
Commission, 20830 Great Smoky Mtn. Expressway, Waynesville, NC 28786



# COMMONWEALTH of VIRGINIA

## Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Douglas W. Domenech  
Secretary of Natural Resources

Kathleen S. Kilpatrick  
Director

Tel: (804) 367-2323  
Fax: (804) 367-2391  
TDD: (804) 367-2386  
www.dhr.virginia.gov

May 30, 2012

Philip A. Francis, Jr., Superintendent  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, North Carolina 28803

RE: Blue Ridge Parkway  
General Management Plan and Environmental Impact Statement  
DHR File No. 2002-1902

Dear Superintendent Francis:

Thank you for requesting our comments on draft General Management Plan and Environmental Impact Statement. We have appreciated the opportunity to participate in earlier meeting leading up to the GNP in Jonesville, North Carolina in 2002 and 2004 to discuss the significance of parkway cultural resources and goals for future management. We are very pleased to see that the action alternatives include a comprehensive parkway-wide approach to cultural resource management. We strongly support the Park's preferred alternative, Alternative B. The draft document is generally very written and organized. We offer the following minor comments for your consideration:

### **Appendix B. Determination of Impairment.**

On page 567, Archaeological resources, it is stated that: *Some impacts could be mitigated through the use of appropriate screening and use of vegetation and appropriate design and new, non-contributing additions could be designed to be compatible with the historic setting.* These are not in fact appropriate mitigations for archaeological sites, but for cultural landscapes and structures.

On page p.568 it is stated that *Ground disturbing activities related to the construction of new concession facilities could result in long term adverse impacts because some sites features or artifacts could be altered, even though their information value would be retained.* However, archaeological sites may be eligible for more than their information value. Archaeological sites may be eligible under criteria A and B as well as D. They may also be of cultural importance to living communities.

Again, on p.568 it is stated that *any potential ground disturbing activities could cause short-term adverse impacts on archaeological resources.* Unfortunately archaeological sites are non-renewable resources. Ground disturbing activities have the potential to cause permanent and severe impacts to archaeological resources to the point of total destruction.

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 862-6416  
Fax: (804) 862-6196

Capital Region Office  
2801 Kensington Office  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391

Tidewater Region Office  
14415 Old Courthouse Way 2<sup>nd</sup>  
Floor  
Newport News, VA 23608  
Tel: (757) 886-2807  
Fax: (757) 886-2808

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5428  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7031  
Fax: (540) 868-7033

However, we can agree that implementation of the preferred alternative would not result in impairment to archaeological resources through implementation of the mitigation measures presented on page 91 and 92.

**Rocky Knob.Mileposts 166-174.**

We have some concern about the effects of Alternative B as presented in the comparison of alternatives from upgrading the Gorge Trail System. There is a special cultural resource zone is Rockcastle Gorge where there are remnants of an abandoned mountain community. Alternative C proposes *In proximity of the historic settlement sites, including the fire road, allow hiking only*. We are not clear whether the upgrade proposed in Alternative B would be for a multi-use trail, rather than hiking only. On page 140 it is stated that *Because this area can tolerate only little impact to historic structures, this special cultural resource zone would provide for long term beneficial impacts on historic structures through added protection*. Discussion of impacts to historic structures here and elsewhere in the document is too narrowly focused on structures that make up the parkway. Impacts to buildings, such as the CCC- era cabin and the Rock Castle Gorge Mountain Community must also be considered. Upgrading the trail does have the potential to affect historic buildings and the cultural landscape. We understand that the cultural landscape report for Rocky Knob is incomplete. No draft has yet been submitted to DHR. DHR has also not received the ethnographic overview and assessment scheduled for approval in 2011(p. 227). Consequently we do not know the status or condition of the buildings remaining in the special cultural resource zone. Nonetheless, the mitigation measures presented on pages 91 and 92 should serve to address the effects that may occur.

We apologize for the delay in our response and look forward to working with you on future projects as Alternative B is implemented. If you have any questions, or if we may provide any further assistance, please do not hesitate to contact me at (804) 367-2323, ext. 112; fax (804) 367-2391; e-mail [ethel.eaton@dhr.virginia.gov](mailto:ethel.eaton@dhr.virginia.gov).

Sincerely,



Ethel R. Eaton, Ph.D., Senior Policy Analyst  
Division of Resource Services and Review

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 862-6416  
Fax: (804) 862-6196

Capital Region Office  
2801 Kensington Office  
Richmond, VA 23221  
Tel: (804) 367-2323  
Fax: (804) 367-2391

Tidewater Region Office  
14415 Old Courthouse Way 2<sup>nd</sup>  
Floor  
Newport News, VA 23608  
Tel: (757) 886-2807  
Fax: (757) 886-2808

Western Region Office  
962 Kime Lane  
Salem, VA 24153  
Tel: (540) 387-5428  
Fax: (540) 387-5446

Northern Region Office  
5357 Main Street  
PO Box 519  
Stephens City, VA 22655  
Tel: (540) 868-7031  
Fax: (540) 868-7033

102173



717 Main Street  
P.O. Box 727  
North Wilkesboro, NC 28659  
336.838.8662  
[www.wilkesnc.org](http://www.wilkesnc.org)

December 9, 2011

Superintendent Philip A. Francis, Jr.  
Blue Ridge Parkway  
199 Hemphill Knob Road  
Asheville, NC 28803

RE: Future of the Blue Ridge Parkway

Dear Superintendent Francis:

Wilkes Chamber of Commerce submits this letter in support of the preservation of the Blue Ridge Parkway. The chamber feels strongly about the sustainability of the parkway's historic appearance, character, and the overall visitor experience. The Blue Ridge Parkway is a tourism destination for thousands of visitors seeking to escape from traffic, noise, crowding, and intrusive development. Each visitor values the peace, solitude, quiet, and spectacular scenic views the parkway experience provides. We feel these values must be protected and enhanced.

Wilkes Chamber of Commerce believes the Blue Ridge Parkway should remain separate and distinct from the regional transportation system. Road connectors may trigger additional adjacent residential development and increase the non-visitor, commuter traffic flow. We encourage the Park Service of the Blue Ridge Parkway to sustain the parkway's scenic and rustic character for future generations.

Sincerely,

Linda Cheek

President – Wilkes Chamber of Commerce

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## PREPARERS AND CONTRIBUTORS

### PREPARERS

#### **National Park Service, Denver Service Center**

Chris Church, Project Manager/Natural Resource Specialist. B.S. Wildlife and Fisheries Science, 15 years' experience, 5 years with National Park Service. Responsible for managing the project and writing sections of the plan.

Ann Van Huizen, (retired), Project Manager (2001–2010). Responsible for managing the project and writing sections of the plan. 33 years with the National Park Service; B.A. in Liberal Arts (Forest Resource Management, Biology, and Communications).

Harlan Unrau, Cultural Resources Specialist (retired). 35 years with the National Park Service; B.A. and M.A. in History. Prepared early drafts of Cultural Resource Affected Environment sections.

Larry Van Horn, Cultural Resource Specialist (retired). Responsible for early drafts of Cultural Resource Affected Environment sections and Consultation chapter. 30 years as a cultural anthropologist and cultural resource specialist in the National Park Service and one year as an NPS volunteer. B.A. in History, M.A. in Anthropology, and Ph.D. in Anthropology.

Gretchen Ward, Cultural Resource Specialist (2008–2010). Responsible for later drafts of Cultural Resource Affect Environment and Environmental Consequences. 18 years with the National Park Service; B.A. in History, B.A. in Anthropology, and M.A. in Anthropology.

Carrie Miller, Cultural Resource Specialist. 1 year with the National Park Service, 8 years as an architectural historian in survey and environmental planning; Master of Architectural History; B.S. in Human Ecology.

Don Wojcik, Natural Resource Specialist. 2 years with the National Park Service, 11 years as natural resource planner with county government open space programs, 5 years as environmental policy analyst with nonprofit and academic organizations, and 2 years as civil engineer with municipal government; Master of Public Affairs in Environmental Policy and Natural Resource Management; B.S. in Civil and Environmental Engineering.

Andrew Coburn, Community Planner; B.A. Economics; B.S. Business Administration; Master Urban and Regional Planning, Land Use and Environmental Planning; Master of Public Administration; 3 years with the National Park Service.

Jim Corbett, Visual Resource Specialist, 6 years with National Park Service.

Nell Conti, GIS Specialist; B.A. in Geography; M.S. in Geographic Information Systems (GIS) Science; expertise in GIS and remote sensing; 6 years with the National Park Service.

Ericka Pilcher, Visitor Use Management Specialist / Community Planner. B.S. Conservation Biology; M.S. Parks and Protected Areas Management; 7 years with the National Park Service.

Jennifer Stein, Visitor Use Management Specialist. B.A. Environmental Studies; M.A.S. Environmental Policy and Management; one year with the National Park Service.

#### **National Park Service, Blue Ridge Parkway**

Philip A. Francis Jr., Superintendent

Monika Mayr, Deputy Superintendent

Gary W. Johnson, Chief of Resource Planning and Professional Services/Landscape Architect

Bambi Teague, Chief of Resource Management

Dawn Leonard, Community Planner

J. David Anderson, Landscape Architect

Ann Childress, Chief of Interpretation

### **National Park Service, Southeast Regional Office**

Ben West, Chief of Planning

John Barrett, Planner, Regional Project Liaison/ Planner

Zackary Ray, Student Planner

### **Consultants**

EDAW, INC (now AECOM)  
Drew Stoll, GIS Specialist, Landscape Architect  
Maria Michieli-Best, Editor

David Evans and Associates  
Stacy Tschour, Transportation Engineer  
Patty Steinholtz, Writer/Editor

University of Vermont, Visitor Use/Carrying Capacity Sub-Contractor

E2M/ Sammons & Dutton Subcontractor  
Ron Dutton, Economist

Cardno TEC, Inc.  
Elaine Emerson, Editor

### **CONTRIBUTORS**

#### **National Park Service, Denver Service Center**

Bob Merrick, Cost Estimator, DSC

Marilyn Hof, (retired) Visitor Use Specialist/ Planner, Denver Service Center

Terri Urbanowski, Landscape Architect, Denver Service Center

Ian Shanklin, (former) Landscape Architect, Denver Service Center

Jeff Reinbold, (former) Community Planner, Denver Service Center

Linda Dahl, (former) Community Planner, Denver Service Center

Sharon Miles, (former) Community Planner detailed to Denver Service Center

Carla McConnell, Architect/Planner, Denver Service Center

Erin Flanagan, Community Planner, Denver Service Center

Christy Fischer, (retired) Editor, Denver Service Center

Linda Ray, (retired) Visual Resource Specialist, Denver Service Center

Doug Williams, (former) Landscape Architect

Bill Witmer, (retired) Project Manager (2001–2003)

Kerri Cahill, Community Planner

Leslie Peterson, Contract Coordinator, Denver Service Center

#### **National Park Service, Blue Ridge Parkway**

Phil Francis, Superintendent

Monika Mayr, Deputy Superintendent

Dan Brown, (retired) Superintendent, Blue Ridge Parkway (2001–2005)

Laura Rotegard, (former) Management Assistant/Planner, Blue Ridge Parkway

Gary W. Johnson, Chief of Resource Planning and Professional Services/Landscape Architect

Mike Molling, Chief of Maintenance

Suzette Molling, Environmental Protection Specialist

Steven Kidd, Cultural Resource Specialist

Al Hess, (retired) Cultural Resource Management Specialist

Ann Childress, Chief of Interpretation

Patty Lockamy, (former) Chief of Interpretation

Peter Givens, Interpretation Specialist

Mindy DeCesar, Field Staff Representative/Interpreter

Bob Cherry, Field Staff Representative/Natural Resource Specialist

Chris Ulrey, Natural Resource Specialist

Bruce Bytnar, Field Staff Representative/District Law Enforcement

Carolyn Sparks, Field Staff Representative/Maintenance Worker

Tim Francis, Field Staff Representative/District Law Enforcement Representative

Phil Noblitt, (retired) Public Information Specialist

David Anderson, Resident Landscape Architect

Joe Aull, Administrative Officer

Ricky Baker, Facility Manager

Lena Boesser-Koschmann, Assistant Chief Ranger

Don Coleman, Supervisory Ranger

Dawn Godwin, Community Planner

Roy Jones, Facility Manager

Michele Maertens, District Interpreter

Bobby Miller, District Ranger

Danny Myrtle, Facility Manager

Laura Nelson, Concessions Specialist

Michael Ryan, Facility Manager

Steve Stinnett, Chief Ranger

Chris Ulrey, Plant Specialist

Tina White, District Interpreter

**National Park Service, Harpers Ferry Center**

Keith Morgan, (retired) Interpretive Planner, HFC

**National Park Service, Southeast Regional Office**

Ben West, Chief of Planning and Compliance

John Barrett, Planner

John Fischer, (retired) Regional Liaison/Planner

David Hasty, Historical Landscape Architect

**National Park Service, Washington Support Office—Park Planning and Special Studies**

Tokey Boswell, Program Analyst

John Haubert, (retired) Liaison/Policy Reviewer

Kevin Percival, Transportation Planner

Susan Grosser, Transportation Planner

**Consultants**

Karen Lusby, Natural Resource Specialist,  
EDAW (AECOM)

Cassie Vetter, David Evans and Associates

Woolpert LLP, View Area Mapping  
Contractor

Timberly Belish, Parsons

John Hoesterey, Parsons

Alexa Miles, Parsons

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BLUE RIDGE PARKWAY

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FINAL GENERAL MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT

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