

U.S. Fish & Wildlife Service

Meet the National Wildlife Refuge System

*Special Places Where Wildlife and
People Thrive*

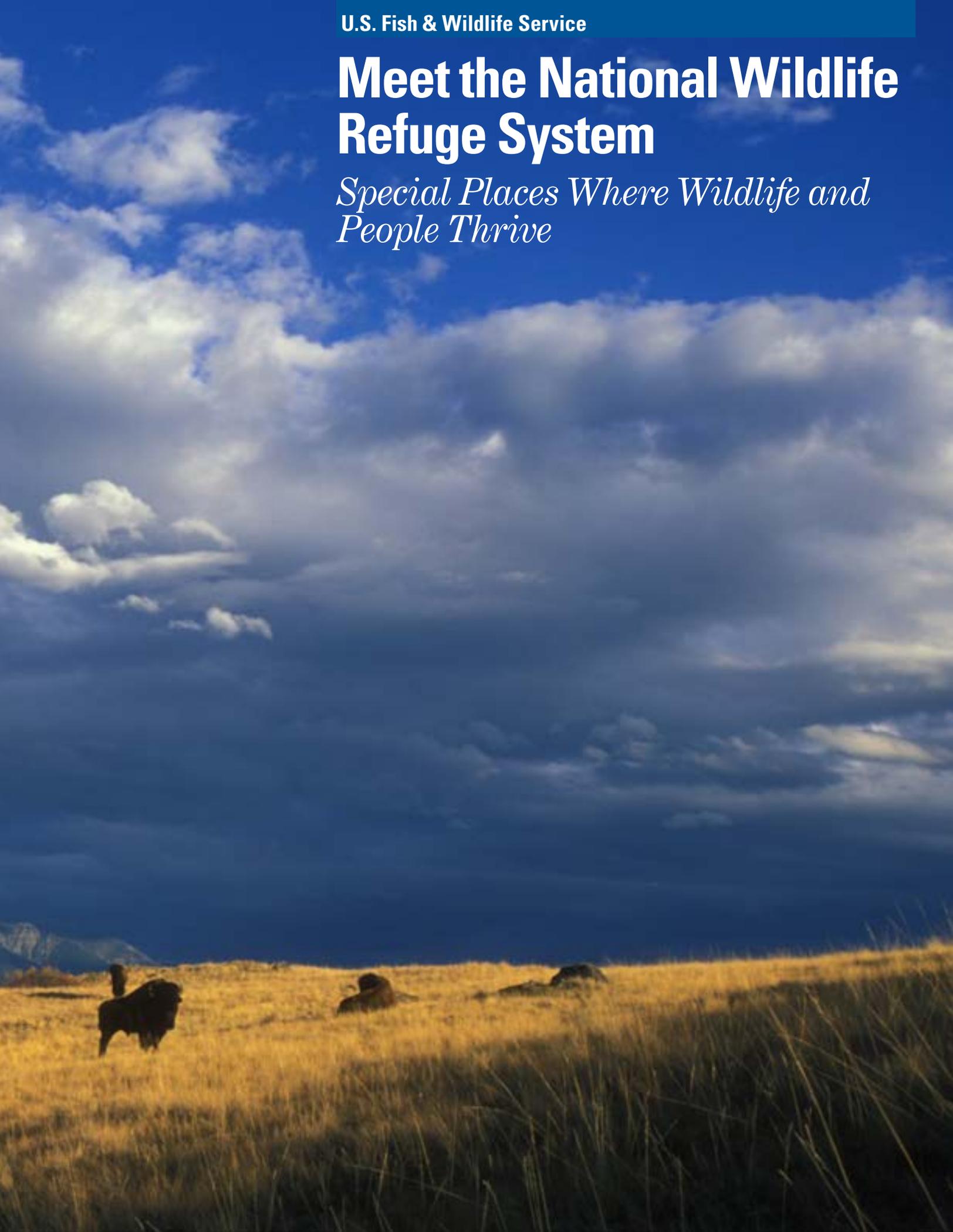


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This document was assembled by the National Wildlife Refuge System Headquarters in Falls Church, VA. It is a general overview of the National Wildlife Refuge System. Many statistics in the document refer to status as of the end of a fiscal year (September 30).

Overview

A hundred years in the making, the National Wildlife Refuge System (NWRS or Refuge System) is a unique network of lands and waters that benefits wildlife, provides unparalleled outdoor experiences for all Americans, and protects a healthy environment.

To borrow from noted author and conservationist Rachel Carson, whether traveling in the city, suburbs or the country, sooner or later you are likely to meet the sign of the flying Blue Goose — the emblem of the National Wildlife Refuge System. You may meet it crossing miles of rolling prairie in the Midwest, or in the deserts of the Southwest. You may meet it by a small pond on your morning commute, as you park near your favorite beach, or as your boat floats through the winding salty creeks of a coastal marsh. When you see the Blue Goose, it means that the wetlands behind the sign are helping to purify our water the insects and birds have a place to rest after pollinating our food, and our children will inherit a network of places where they can see and enjoy the world's wild creatures.

The Blue Goose and the National Wildlife Refuge System welcome you to explore and renew yourself in these special places.



Our nation is rich in animal life. Thousands of native and migratory birds, reptiles, fish and mammals call the U.S. home. These animals have the same needs we do. They need space to rest, safe areas to rear their young, and access to healthy food. National wildlife refuges are places where a majority our nation's animals find the habitat they need to survive. Nearly all species of birds (700 of 786), fish (1,000 of 1,154), reptiles and amphibians (250 of 311) are found on refuges, and nearly half of the mammal species (220 of 428). This makes the Refuge System the nation's single most important system of lands and waters set aside to protect our rich wild heritage.

The National Wildlife Refuge System is managed by the U. S. Fish and Wildlife Service, a federal agency within the Department of the Interior. We are sometimes confused with the National Park Service, a sister federal agency within the Interior Department, and with state fish and wildlife agencies who are our counterparts at the state level. However, the Refuge System is its own entity with a unique role as steward of conservation lands with national and international significance.

The Refuge System works with other programs within the Fish and Wildlife Service as well as with tribes, other federal agencies, states, non-governmental organizations, and the public to maintain the biological integrity, diversity, and ecological health of Refuge System lands and waters. Collaboration helps maintain and enhance populations of migratory birds, fish, and endangered species. We work especially closely with state fish and wildlife agencies, recognizing the shared authority and responsibility for managing fish and wildlife on national wildlife refuges. This federal-state partnership, grounded in mutual respect, is essential to effective conservation work.

This network of 562 national wildlife refuges and 38 wetland management districts (as of September 30, 2014) totals more than 150 million acres and consolidated would cover an area larger than the state of California. The Refuge System is unique in that it is the world's largest and most diverse collection of public lands set aside specifically for the conservation of fish, wildlife, and plants. Refuges span from the Arctic Ocean to the South Pacific and from Maine to the Caribbean. There is at least one national wildlife refuge in every state and territory and within an hour's drive of most major cities. Although located throughout the U.S. and its territories, the largest parcels of the Refuge System are in Alaska and Pacific Ocean habitats (see table on next page)

The Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of the present and future generations of Americans.

— National Wildlife Refuge System Improvement Act of 1997

GEOGRAPHIC AREA	NO. UNITS	SIZE OF NWRS (SEPT 30, 2014)	NOTES
State of Alaska	16	*76.9 million acres	51% of total Refuge System acres are in Alaska; about 18% of Alaska is set aside as national wildlife refuges
Hawaii and Pacific marine areas	22	54.8 million acres	37% of total Refuge System acres are located in the Pacific; nearly all of these acres are part of 4 marine national monuments; these areas are predominantly coral reefs and open ocean
Puerto Rico, Virgin Islands, Navassa NWR	9	0.4 million acres	Largest refuge in the Caribbean is the remote Navassa Island which is nearly 365,000 acres
Lower 48 states	553	18.3 million acres	2% of total NWRS acres are in the lower 48 states; the NWRS constitutes about 0.9% of lower 48 acreage; by unit count, 92% of NWRS units are in the lower 48 – 515 are refuges (14.2 million acres) and 38 are wetland management districts (3.8 million acres)
Entire Refuge System	600	150.3 million acres	562 refuges and 38 wetland management districts

***Alaska acreage estimate in the above table is based on estimates made in the early to mid-1980s. Improved satellite data and cadastral tools available today indicate that actual acreage is larger than indicated here.**

As used in the above table, the term refuge includes Refuge System lands, waters, and interests therein administered as wildlife refuges, wetland management districts, wildlife ranges, wildlife management areas, game preserves, and conservation areas. A Wetland Management District is an administrative collection of Waterfowl Production Areas and easements comprised of small natural wetlands and grasslands that provide breeding, resting, and nesting habitat for millions of waterfowl, shorebirds, grassland birds, and other wildlife. About 95 percent of wetland management districts are in the Prairie Pothole Region states of Iowa, Minnesota, Montana, North Dakota, and South Dakota.

A variety of additional information is available on the national web site (<http://www.fws.gov/refuges/index.html>). Also, the video “America’s National Wildlife Refuge System: A Place for Wildlife and People” may be of interest. (1.usa.gov/18XAapm)

Our History in Brief

From the earliest years, the Refuge System has played a major role in the advancement of natural resource conservation in America. A brief summary of our history is below, and more details are available at <http://www.fws.gov/refuges/history/>.

THE EARLY YEARS: TEDDY ROOSEVELT LEADS THE CHARGE ||

1903-1913 This decade marked growing concern over alarming declines of our nation's wildlife, especially as a result of uncontrolled market hunting for meat and plumes (feathers) as well as habitat loss. Conservation-minded President Theodore Roosevelt established three - acre Pelican Island in Florida as the first unit of what is now the National Wildlife Refuge System. The first warden employed at Pelican Island, Paul Kroegel, was a Florida Audubon Society warden who was paid a salary of \$1 a month by the American Ornithologists' Union. Following the modest beginning with Pelican Island, many other islands and parcels of land and water were quickly dedicated to protecting various colonial nesting birds such as herons, egrets, and pelicans. By the end of his administration in 1909, Roosevelt had issued a total of 51 Executive Orders that established wildlife reservations in 17 states and three territories. Congress also responded to the public mood recognized by Roosevelt and legislatively established the Wichita Mountains National Wildlife Refuge in 1905, the National Bison Range in 1908, and the National Elk Refuge in 1912. By the end the National Wildlife Refuge System's first decade, this nascent collection of conservation lands included 65 units in 15 states and territories. The nation now recognized the need to conserve its wilder lands and inhabitants.

MIGRATORY BIRD HABITATS: A CONTINUING FOCUS || 1913-

1953 Birds, especially those that cross state and international borders, remained in decline as the human population expanded across the landscape. Market hunting and commercial collection of bird parts continued. Draining of wetlands for agriculture and the sprawl of cities and industries spotlighted habitat loss as another factor in migratory bird population declines. The federal government first exerted authority over migratory birds in the Weeks-McClean Law in 1913. The Migratory Bird Treaty Act, enacted in 1918, replaced the Weeks-McClean Law and implemented U.S. obligations under several treaties and conventions. It created an even larger role for the federal government in managing migratory birds. The Migratory Bird Treaty Act of 1918 provided for regulations to control the taking of migratory birds. In implementing this Act, it soon became clear that effective management would require increased habitat protection. Refuges continued to be established primarily by Executive Order, but were still for the most part too few and too small to ensure the future of such wide-ranging migratory species as waterfowl and shore birds. Passage of the Migratory Bird Conservation Act in 1929 and the Migratory Bird Hunting and Conservation Stamp Act (known as the Duck Stamp Act) in 1934 provided authorities and funding that enabled the Refuge System to grow in the years that followed. As part of President Franklin Roosevelt's New Deal,

Congress also bolstered the Refuge System by creating the Civilian Conservation Corps in 1933. Over the next eight years, thousands of CCC and Works Progress Administration workers improved habitat and built the infrastructure of more than 50 national wildlife refuges.

A COLLECTION OF LANDS AND WATERS BECOMES A SYSTEM OF REFUGES DEDICATED TO AMERICA'S WILDLIFE || 1953-1973

Unlike other federal land agencies such as the National Park Service and U.S. Forest Service, the National Wildlife Refuge System didn't start out as a system; rather it was a patchwork of lands born out of a need to protect imperiled wildlife. It wasn't until half a century after the first refuge was established, as development continued to drastically outpace conservation, that Congress recognized the need to create a legislative framework for protecting the nation's wildlife resources. First, Congress passed the Fish and Wildlife Act of 1956, creating a comprehensive national fish and wildlife policy and providing authority to acquire and develop lands for national wildlife refuges. Funds to implement this authority were not immediately forthcoming, and federal land acquisition during the 1950s could not keep pace with the high rate of drainage (primarily due to intensive agricultural development) of waterfowl breeding habitat in the Prairie Potholes Region. To remedy this, Congress amended the Duck Stamp Act in 1958 and authorized the small wetland program to protect waterfowl habitat. The habitat included small wetlands and grassland, called Waterfowl Production Areas. Congress also passed the Wetlands Loan Act of 1961. As later amended, this Act authorized a loan of \$200 million to acquire wetlands.

Recognizing new public demands for recreation, Congress passed the Refuge Recreation Act of 1962 to authorize the recreational use of refuges. The Land and Water Conservation Fund Act enacted in 1965 provided new funding for local, state, and federal acquisition of lands for conservation and recreation. Perhaps the law of greatest significance to wildlife refuges during this era was the National Wildlife Refuge System Administration Act of 1966. The Administration Act moved the assemblage of conservation lands closer to being a system by providing guidelines and directives for administration and management of all areas in the Refuge System, including wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife management areas, and waterfowl production areas.

Of equal importance was President Roosevelt's appointment in 1933 of a "blue ribbon" committee, consisting of Jay Norwood "Ding" Darling, Chairman, and Thomas Beck and Aldo Leopold to study and advise him on waterfowl needs. This dynamic conservation trio alerted the nation, as no other group had done before, to the crisis facing waterfowl resources as a result of drought, over-harvest, and habitat destruction. They campaigned vigorously for the funds to combat these problems. In 1935, Darling was appointed to head the Bureau of

Biological Survey and brought with him a dynamic and energetic young Midwesterner, J. Clark Salyer II, to manage the fledgling refuge program.

For the next 31 years, until his death in 1966, Salyer was the primary driving force in selecting new refuge areas and campaigning for their acquisition, in defending their integrity, in protecting the wildlife that they harbored, and in seeing that refuges were administered and managed to best serve the wildlife resource. Theodore Roosevelt, Darling and others had a profound influence on the development of the Refuge System, but Salyer was unquestionably the “father” of the system. The imprints of his involvement remain to this day.

By the end of the Refuge System’s first half century, this collection of conservation lands was emerging as a true nationwide success story; it included 300 units in 42 states and three territories, and had a total of 17.6 million acres of lands and waters protected, including 9.6 million acres in the lower 48 states.

The wave of public opinion in the 1960s led to a much expanded view of the need to care for our nation’s environment. Passage of laws such as the National Environmental Policy Act in 1970 and the Wilderness Act of 1964 are good examples. This influenced the Refuge System to look beyond its traditional, predominantly migratory bird focus. Unique and threatened habitats joined the mix of conservation targets for acquisition of new lands.

The 1964 Wilderness Act established the National Wilderness Preservation System. The Wilderness Act states that these Congressionally-designated areas “... shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness.” Since its passage, Congress designated more

than 20 million acres of Wilderness on units of the National Wildlife Refuge System. The Endangered Species Act of 1973 authorized the establishment of new refuges for the express purpose of protecting and restoring endangered species and also redirected management emphasis on some refuges. It is considered the world’s foremost law to protect species faced with extinction.

By the end of the Refuge System’s 7th decade, this collection of conservation lands was continuing to grow in importance and was becoming a more comprehensive and systematic collection of lands; it included 529 units (356 refuges and ranges, 114 waterfowl production area counties, and 59 coordination areas) in 49 states and three territories. It protected 31 million acres of lands and waters, including 11.2 million acres in the lower 48 states.

ALASKA, NORTH AMERICA’S SERENGETI ||1983 The state of Alaska dwarfs the rest of the country’s biggest states by a magnitude of five or more. Before statehood in 1959, Alaska contained a few parcels that were designated as wildlife reserves for sea birds, waterfowl, and moose. But the majority of the state’s vast tracts of untouched boreal forests, bogs, mountain peaks, and tundra had yet to be fully explored. Land settlement was widely disputed during the state’s infancy and in an effort to settle the state, Congress passed the Alaska Native Claims Settlement Act of 1971 (ANCSA), an outgrowth of the Alaska Statehood Act. This law incidentally became of enormous importance to the NWRS. Among numerous other provisions, it authorized the addition of immense acreages of highly productive, internationally significant wildlife lands to the NWRS. Specific lands to be added to the Refuge System, along with other far-reaching resource protection measures for Alaska, came later in 1980 with the passage of the Alaska National Interest Lands Conservation Act (ANILCA).



Theodore Roosevelt sits on the beach at Breton Island, now a national wildlife refuge in Louisiana. Photo: USFWS

ANILCA nearly tripled the acreage of the Refuge System, establishing nine new refuges, expanding seven refuges, and adding 53.7 million acres to the NWRS (Actual acreage added to the Refuge System in Alaska is larger, but precise calculations became possible only through the use of modern technology). Alaska's 16 national wildlife refuges are the size of individual states. For example, Arctic National Wildlife Refuge is roughly the size of North Carolina.



Great Swamp National Wildlife Refuge Wilderness in New Jersey was the first designated wilderness in the Refuge System under the Wilderness Act of 1964. Photo: Ralph Ross

By the end of the Refuge System's 8th decade, this collection of conservation lands was strengthened by being entrusted with immense world class conservation treasures within Alaska, including the international Porcupine caribou herd of Arctic National Wildlife Refuge, the teaming seabird populations of Alaska Maritime National Wildlife Refuge, and the world-class sport salmon fishery on Alaska Peninsula and Kenai National Wildlife Refuges. By the end of its 8th decade, the Refuge System had grown to include 625 units (418 refuges, 149 waterfowl production area counties in 29 wetland management districts, and 58 coordination areas) in 50 states and four territories. The NWRS protected a total of 88.9 million acres of lands and waters including 12.4 million acres in the lower 48 states and 76 million acres in Alaska.

THE SYSTEM CONTINUES TO MATURE || 1983-2003 Public interest in establishing new refuges and expanding existing refuges remained high during the two decades leading up to the National Wildlife Refuge System Centennial in 2003. A total of 127 new refuges were established during this time.

In 1997 Congress overwhelmingly passed landmark legislation, the National Wildlife Refuge System Improvement Act. This legislation amended the Refuge System Administration Act of 1966 and added significant new guidance for managing the Refuge System. It provided a new statutory mission and directed that the Refuge System be managed as a national system of lands and waters devoted to conserving wildlife and maintaining biological integrity of ecosystems. The law also clarified management priorities by identifying six priority recreational uses on refuges, strengthening the compatibility determination process, and requiring the Service to complete comprehensive conservation plans every 15 years that guide the management of each refuge.

Another legislative milestone occurred in 1998 when the National Wildlife Refuge Volunteer and Community Partnership Enhancement Act was enacted, encouraging partnerships with organizations to promote the understanding and conservation of fish, wildlife, plants, and cultural resources on refuges, and directing the Service to develop refuge education programs to further the mission of the NWRS. This law is unique among federal land agencies and reinforces the Refuge System's reliance on private partners and citizens to carry out the important work of conserving America's wildlife.

By the end of its 21st century, the NWRS had grown into the world's largest and most diverse system of lands and waters dedicated to the conservation of fish, wildlife, and plants, and which also offers first-class recreation for the American public. With passage of landmark legislation and continued strong public support, the Refuge System had grown to include 795 units (542 refuges, 203 waterfowl production area counties in 37 wetland management districts, and 50 coordination areas) in 50 states and four territories. The NWRS protected a total of 95.8 million acres of lands and waters including 16.7 million acres in the lower 48 states, and 76 million acres in Alaska.

STRENGTHENING THE MARINE DIMENSION || 2003-2013 Many refuges are located on or near coastal areas, so the Refuge System has always had some involvement in the stewardship of marine resources. However, this stewardship role expanded dramatically when four Pacific Marine National Monuments were added to the Refuge System. The first was Papahānaumokuākea Marine National Monument, established in 2006. It is the single largest conservation area under the U.S. flag, and is one of the largest marine conservation areas in the world. This Marine National Monument was expressly created to protect an exceptional array of extensive coral reefs,

small islands and shallow water environments sheltering over 7,000 marine species and cultural sites significant to Native Hawaiians. It received further recognition in 2010 when it was designated as a World Heritage Site by the United Nations.

Three additional Marine National Monuments were established by President George W. Bush in January 2009: the Pacific Remote Islands Marine National Monument is southwest of Hawaii and includes Wake, Baker, Howland and Jarvis Islands; Johnston Atoll; Kingman Reef; and Palmyra Atoll wildlife refuge; Rose Atoll Marine National Monument is east of American Samoa and is the southernmost point of the U.S. It sustains many endemic species, including corals, fish, shellfish, marine mammals, seabirds, water birds, land birds, insects, and vegetation not found elsewhere. The third is the Northern Mariana Islands National Monument, which includes the Mariana Trench, the deepest canyon on Earth. Among its diverse and remarkable underwater features are one of only two known boiling pools of liquid sulfur and huge, active mud volcanoes. The four Marine National Monuments added 52.8 million acres of lands and waters to the Refuge System. By the end of its 11th decade (2013), the NWRS began devoting

increased attention to marine resources; and the Refuge System grew to include 820 units (561 refuges, 209 waterfowl production area counties in 38 wetland management districts, and 50 coordination areas). Lands and waters protected encompass over 150 million acres, including 18.1 million acres in the lower 48 states, over 77 million acres in Alaska, and 54.7 million acres in marine national monuments.

FY 2014 HIGHLIGHT The Refuge System's 12th decade began with the same emphasis of decade 11, namely the protection of marine environments in the Pacific. On September 25, 2014, President Obama issued Proclamation 9173, which expanded the Pacific Remote Islands Marine National Monument. This expanded protection of Marine National Monuments from about 212 million acres to a more expansive 473 million acres. This includes 54.7 million acres within 12 national wildlife refuges and 418 million acres outside national wildlife refuge boundaries. The 418 million acres of marine national monument located outside refuge boundaries are managed by the Service in consultation with the Department of Commerce and the State of Hawaii.



Butterfly fish, tangs, and parrot fish swim around coral at the marine national monuments managed by the Refuge System in the Pacific Ocean. Photo: Kydd Pollock

Key Legislation

Key legislation that guides establishment and management of refuges:

ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT OF 1980, (16 U.S.C. 410hh-3233, 43 U.S.C.1602-1784). Provides for the designation and conservation of certain public lands in Alaska, including units of the National Wildlife Refuge System, and for the continuing subsistence needs of the Alaska Natives. Sec. 42(g) of this Act makes use of such Native lands subject to refuge regulations.

FISH AND WILDLIFE ACT OF 1956, as amended, (16 U.S.C.742(a)-754). Establishes a comprehensive national fish and wildlife policy and authorizes the Secretary of the Interior to take steps for the development, management, advancement, conservation, and protection of fisheries resources and wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means.

MIGRATORY BIRD CONSERVATION ACT, (16 U.S.C. 715-715d). Authorizes the Secretary to conduct investigations and publish documents related to North American birds, and establishes a Migratory Bird Conservation Commission (MBCC) to approve areas recommended by the Secretary for acquisition. The MBCC also approves wetlands conservation projects recommended by the North American Wetlands Conservation Council under the North American Wetlands Conservation Act.

MIGRATORY BIRD HUNTING AND CONSERVATION STAMP ACT, as amended (16 U.S.C. 718). This Act, commonly referred to as the Duck Stamp Act, requires waterfowl hunters, 16 years of age or older, to purchase and possess a valid federal waterfowl hunting stamp prior to taking migratory waterfowl. The Secretary is authorized to use \$1 million from sales of migratory bird hunting and conservation stamps to promote additional sales of stamps.

MIGRATORY BIRD TREATY ACT OF 1918, as amended, (16 U.S.C. 703-712). Implements four international treaties that affect migratory birds common to the U. S., Canada, Mexico, Japan, and the former Soviet Union. Establishes federal responsibility for protection and management of migratory and nongame birds, including the establishment of season length, bag limits, and other hunting regulations, and the issuance of permits to band, possess or otherwise make use of migratory birds. Except as allowed by implementing regulations, this Act makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products.

NATIONAL WILDLIFE REFUGE SYSTEM ADMINISTRATION ACT OF 1966, as amended, (16 U.S.C. 668dd et seq.). Provides authority, guidelines, and directives for the Service to improve the National Wildlife Refuge System; administer a national network of lands and waters for the conservation, management,

and restoration of fish, wildlife and plant resources and habitat; ensure the biological integrity, diversity, and environmental health of refuges is maintained; define compatible wildlife-dependent recreation as appropriate general public use of refuges; establish hunting, fishing, wildlife observation and photography, and environmental education as priority uses; establish a formal process for determining compatible uses of refuges; and provide for public involvement in developing comprehensive conservation plans for refuges.

NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT OF 1997, (P.L. 105-57). Spells out wildlife conservation as the fundamental mission of the Refuge System; requires comprehensive conservation planning to guide management of the Refuge System; directs the involvement of private citizens in land management decisions; and provides that compatible wildlife-dependent recreation is a legitimate and appropriate use that should receive priority in refuge planning and management.

NATIONAL WILDLIFE REFUGE VOLUNTEER IMPROVEMENT ACT OF 2010, (P.L. 111-357). Authorizes cooperative agreements with nonprofit partner organizations, academic institutions, and state and local governments to construct, operate, maintain, or improve refuge facilities and services, and to promote volunteer, outreach, and education programs. Authorization of Appropriations expires September 30, 2014.

REFUGE RECREATION ACT, (16 U.S.C. 460K-460K-4). PUBLIC LAW 87-714, APPROVED SEPTEMBER 28, 1962, (76 STAT. 653) AS AMENDED BY PUBLIC LAW 89-669, APPROVED OCTOBER 14, 1966, (80STAT.930) AND PUBLIC LAW 92-534, APPROVED OCTOBER 23, 1972, (86 STAT. 1063). Authorizes the Secretary of the Interior to administer refuges, hatcheries and other conservation areas for recreational use, when such uses do not interfere with the areas primary purposes.



Snow geese take to the sky at Bosque del Apache National Wildlife Refuge, New Mexico. Photo: Lee Karney/USFWS

Special Designation Areas

Designation	#Units	Highlights
Biosphere Reserves	3 units on 5 refuges in 4 states	The 3 Biosphere Reserves within the Refuge System are located in AK, CA, GA and SC, and are among 47 Reserves in the U.S.
Marine Protected Areas	106 units on 106 refuges in 26 states plus U.S. territories	
National Historic Landmarks	10 units on 8 refuges in 5 states	
National Monuments	7 units on 15 refuges in 4 states plus U.S. territories	4 Marine Monuments contain 418.4 million acres of submerged land, constitute more than one-third of the Refuge System area and are the most unspoiled tropical ecosystems under U.S. purview.
National Natural Landmarks	43 units on 38 refuges in 24 states plus U.S. territories	
National Recreation Trails	72 units on 62 refuges in 31 states	
National Wild and Scenic Rivers	13 units on 11 refuges in 7 states	
RAMSAR Wetlands of International Importance	26 units on 26 refuges in 17 states	26 of the 35 RAMSAR sites in the U.S. are within the Refuge System.
Research Natural Areas	207 units on 93 refuges in 44 states plus U.S. territories	
Western Hemisphere Shorebird Reserve Network	19 units on 19 refuges in 12 states	
Wilderness Areas	74 units on 62 refuges in 25 states	The Refuge System has 20.7 million acres of Wilderness (19% of the nation's entire Wilderness acreage).
World Heritage Sites	1 unit on 2 refuges in 1 state plus U.S. territories	Papahānaumokuākea Marine National Monument is the only World Heritage Site in the NWRS

BIOSPHERE RESERVES: Launched in 1971, UNESCO's Man and the Biosphere Program (bit.ly/1CI1MLM) is an intergovernmental scientific program that aims to establish a scientific basis for the improvement of relationships between people and their environments. It proposes interdisciplinary research, demonstration, and training in natural resources management. As of September 2014, the World Network of Biosphere Reserves encompasses 631 biosphere reserves in 117 countries.

MARINE PROTECTED AREA (MPAs): Managed by the federal government (led by the National Oceanic and Atmospheric Administration), the national system of Marine Protected Areas (marineprotectedareas.noaa.gov/) brings work together at the regional and national levels to achieve common objectives for conserving the nation's important natural and cultural resources. The MPAs are managed independently, but they now have a framework to tie them together. There are currently 437 members of the national system of MPAs.

NATIONAL HISTORIC LANDMARKS: National Historic Landmarks (www.nps.gov/nhl/index.htm) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the U.S. As of September 2014, just over 2,500 historic places bear this national distinction. Working with citizens throughout the nation, the National Historic Landmarks Program draws upon the expertise of National Park Service employees who work to nominate new sites and provide assistance to existing landmarks.

NATIONAL NATURAL LANDMARKS (NNLs): The National Natural Landmarks Program (<http://www.nature.nps.gov/nml/nation.cfm>) was established in 1962 by administrative action under authority of the Historic Sites Act of 1935. Three other laws subsequently referenced the program. The first NNLs were designated in 1963. Managed by the National Park Service, the program's goals are to preserve sites illustrating the geological and ecological character of the United States, enhance the scientific and educational value of sites thus preserved, strengthen public appreciation of natural history, and foster a greater concern for the conservation of the nation's natural heritage. As of September 30, 2014, there are 597 NNLs.

NATIONAL RECREATIONAL TRAILS: The National Trails System Act of 1968 (Public Law 90-543) authorized creation of a national trails system comprised of National Recreation Trails (<http://www.americantrails.org/ee/index.php/nationalrecreationtrails>), National Scenic Trails, and National Historic Trails. While National Scenic Trails and National Historic Trails may only be designated by an act of Congress, National Recreation Trails may be designated by the Secretary of the Interior or the Secretary of Agriculture to recognize exemplary trails of local and regional significance in response to an application from the trail's managing agency. As of September 30, 2014, there are 1,244 designated National Trails in the U.S., encompassing more than 16,000 miles.

WILD AND SCENIC RIVERS: The National Wild and Scenic Rivers System (<http://www.rivers.gov/index.php>) was created by Congress in 1968 (Public Law 90-542) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding

the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection. As of April 2012, the National Wild and Scenic Rivers System protects 12,598 miles of streams in 203 rivers in 39 states and the Commonwealth of Puerto Rico. This represents a little more than one-quarter of one percent of the nation's rivers.

NATIONAL MONUMENTS: A national monument may be established by executive order of the President or by Congressional legislation. The Antiquities Act of 1906 authorized the President to proclaim "historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest" as national monuments. Concerns about protecting mostly prehistoric Indian ruins and artifacts—collectively termed "antiquities"—on western federal lands prompted the legislation. Its purpose was to allow the President to quickly preserve public land without waiting for Congressional legislation. The ultimate goal was to protect all historic and prehistoric sites on federal lands. As of September 2014, there are 105 National Monuments.

RAMSAR SITES: The Ramsar Convention on Wetlands (Ramsar, Iran 1971 bit.ly/1Ew41AG) is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of Wetlands of International Importance and to plan for the "wise use" or sustainable use, of all wetlands in their territories. Worldwide there are 2,186 Ramsar wetlands, 36 of which are in the U.S.

RESEARCH NATURAL AREAS: The Service administratively designates research natural areas on refuges; currently there are 210 such areas totaling 1,955,762 acres on wildlife refuges. Research natural areas are part of a national network of reserved areas under various ownerships. Research natural areas are intended to represent the full array of North American ecosystems with their biological communities, habitats, natural phenomena, and geological and hydrological formations.

WESTERN HEMISPHERE SHOREBIRD RESERVE NETWORK: During the mid-1980s, scientists from the Americas were documenting serious declines in shorebirds. Recognizing that these birds were in trouble prompted the scientists to develop an international strategy (<http://www.whsrn.org/about-whsrn>) to protect shorebirds and their habitats. The strategy was launched in 1986 with the designation of the first site, Delaware Bay in the United States.

WILDERNESS: The U.S. was the first country in the world to designate wilderness areas through law. Subsequently, countries around the world have protected areas modeled after the 1964 Wilderness Act. That year the nation's leaders formally acknowledged the immediate and lasting benefits of wild places to the human spirit and fabric of our nation. In a nearly unanimous vote, Congress enacted the Wilderness Act to permanently protect some of the most natural and undisturbed places in America. The Act describes wilderness as lands affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable. Lands designated as wilderness are preserved and protected in their natural condition and devoted to the public purposes of recreation, scenic, scientific, educational, conservation, and historic

use. The Refuge System plays a major role in Wilderness preservation and is the guardian of nearly 20 percent of the nation's National Wilderness Preservation System. The Refuge System stewards all or parts of 74 designated Wilderness areas, all of which are described at <http://www.wilderness.net/index.cfm>. One additional designated Wilderness area is within the Service's National Fish Hatchery System.

WORLD HERITAGE SITES: World Heritage Sites are designated by the United Nations Educational, Scientific and Cultural Organization (UNESCO), which seeks to encourage the identification, protection and preservation of cultural and natural heritage sites around the world that are considered of outstanding value to humanity. This is embodied in an international treaty called the Convention Concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972. There are 1,007 designated World Heritage sites and 22 in the U.S.



A brown bear emerges from salmon fishing in the Kodiak National Wildlife Refuge in Alaska. Photo: Steve Hillebrand

What We Do

ANNUAL OPERATION AND MAINTENANCE FUNDED ACTIVITIES:

Management activities within the Refuge System are many and varied. One convenient way to describe them is to align with the structure of budgets for the Refuge System as is done in the discussion that follows. Annual operations and maintenance funding and staffing occurs within five functional areas, listed in the table below.

WILDLIFE AND HABITAT MANAGEMENT: This function supports the core biological program of the Refuge System. It includes activities such as monitoring plant and animal populations; restoring wetland, forest, grassland, and marine habitats; managing habitats through manipulation of water levels, prescribed burning, haying, grazing, timber harvest, and planting vegetation; controlling the spread of invasive species; air quality monitoring; investigating and cleaning up contaminants; controlling wildlife disease outbreaks; assessing water quality and quantity; and addressing the human dimensions of wildlife management. These activities are vital for providing scientific information needed to inform management decisions, and for the Refuge System to achieve its mission at local, landscape, and national levels.

VISITOR SERVICES: This function supports public use and related activities within the Refuge System. The National Wildlife Refuge System Improvement Act of 1997 identifies providing wildlife-dependent recreation as a prominent and important goal for the Refuge System. In recognition of the importance of a close connection between fish and wildlife resources, the American character, and the need to conserve wildlife for future generations of Americans, the Visitor Services program plans and implements a variety of fishing, hunting, interpretive, wildlife viewing, photography, and outreach and education programming.

This also includes managing special use permits, recreation fees, and concessionaires. Visitor Services also supports cultural resource protection, accessibility programs, and management of our large and mission-critical volunteers and

Friends programs. Youth employment programs educate young people about career opportunities and promote public service as part of a lifelong commitment to natural resource conservation. Collectively, these programs work to foster understanding and appreciation of the need to conserve America's wildlife and associated natural resources.

REFUGE LAW ENFORCEMENT: The Refuge System employs a cadre of professional law enforcement officers dedicated to natural resource protection and public safety. The Refuge Law Enforcement function provides training, equipment, and management of the System's full-time officers, collateral duty officers, and regional and Headquarters management support staff. Federal wildlife officers also contribute to community policing, environmental education and outreach, and protection of native subsistence rights, as well as other activities supporting the Service's conservation mission. Federal wildlife officers are routinely involved with the greater law enforcement community in cooperative efforts to combat the nation's drug problems, address border security issues, and respond to emergencies such as major hurricanes and other pressing challenges.



Father and son birdwatchers use a spotting scope at Big Muddy National Wildlife Refuge, Missouri. Photo: Steve Hillebrand

Functional Area	FY 2015 Staffing (FTEs)	FY 2015 Budget
Wildlife and Habitat Management	1,505	\$230,343,000
Visitor Services	599	\$ 70,319,000
Refuge Law Enforcement	256	\$ 38,054,000
Conservation Planning	12	\$ 2,988,000
Maintenance	664	\$132,498,000
TOTAL Annual Operations and Maintenance	3,036	\$474,202,000

CONSERVATION PLANNING: The National Wildlife Refuge System Improvement Act of 1997 requires all Refuge System units to prepare and implement Comprehensive Conservation Plans (CCP) every 15 years. Refuges also develop plans such as Habitat Management Plans and Visitor Services Plans that “step down” CCP guidance and provide specificity needed to inform local conservation action. Through solid planning and conservation design, this program enables successful conservation efforts on the ground. Planning contributes to informed decision-making that recognizes the public interest while never losing sight of the mission and goals of the Service. Our planning ensures a transparent public process that guides on-the-ground stewardship of threatened and endangered species, migratory birds, inter-jurisdictional fish, and other species of special concern to the American people. Plans incorporate the best available science and encourage collaboration with partners. They also explore ways to increase recreational opportunities, working closely with regional recreation, trails, and transportation planners to leverage resources that make refuges more accessible to the public. To be effective, conservation plans are written in a way that those who read them clearly understand what is expected and are inspired to take action to become a part of the Service’s conservation mission.

REFUGE MAINTENANCE: This funding and staffing element supports a complex infrastructure including habitat management; visitor, administrative, and maintenance facilities; and a fleet of vehicles and heavy equipment needed to conduct wildlife and habitat management activities. A critical function is providing access to Refuge System lands in support of wildlife and habitat management programs and enabling visitors to enjoy our nation’s rich and diverse fish and wildlife heritage. Refuge maintenance employees actively manage about 3.5 million acres of wildlife habitat each year. More than \$29 billion worth of assets such as roads, buildings, water management structures, and visitor facilities are continually maintained. Deferred maintenance funds (\$35 million available in FY 14) are used to complete most major maintenance projects. As it is difficult to access off-road areas, including remote and rough terrain and all types of water bodies, a variety of vehicles and equipment is needed to meet mission needs. This includes about 9,300 small equipment items including all-terrain vehicles, boats and motors, pumps, generators, trailers, agricultural implements, and similar equipment. It also includes about 5,000 vehicles used for firefighting, wildlife and habitat surveys, transporting equipment to remote work sites, and transporting volunteers. About 4,000 units of heavy equipment are used to manage habitats, maintain roads and levees, and suppress growth of undesirable vegetation.

ACTIVITIES SUPPORTED BY OTHER THAN ANNUAL OPERATIONS AND MAINTENANCE FUNDING: In addition to the annual Operations & Management functions/budgets, several other functional activities/budgets with considerable impact on the Refuge System are highlighted below:

FIRE MANAGEMENT: Fire management is used to conserve, protect, and enhance fish, wildlife, and plants and their habitats while protecting Service facilities and surrounding communities. Fire management is integrated into the Service land management program. An average (2001-2014) of 400 wildfires burn 560,000 acres each year on Service lands. Also, if conditions and funding allow, more than 350,000 acres per year are burned using prescribed fire. Over 80 percent of Service lands in the continental U.S. (over 90 percent in Alaska) include fire-adapted ecosystems with vegetation dependent on periodic

fire. We employ about 360 permanent fire professionals, along with about 100 seasonal and temporary fire employees during fire season. More than 1,400 Service employees are qualified to assist with wildland fire management activities. The annual fire program budget is approximately \$60 million.



This prescribed fire at Charles M. Russell National Wildlife Refuge in Montana is part of a fire management strategy to conserve and enhance wildlife habitat. Photo: Bruce Creef

TRANSPORTATION: The Refuge System and the Federal Highway Administration have worked together for the past 15 years to improve public access to refuges and wetland management districts. Improvements to roads, parking lots, and trails enable access to wildlife-oriented recreation. Funding for these projects on public use roads is provided by Department of Transportation budgets under transportation legislation that has typically been reenacted about every five years. Maintaining a state of good repair, alternative transportation options, transportation planning, and reduction in use of fossil fuels are core elements associated with transportation programs. Although some funding is provided directly for Service projects, many funds within transportation programs involve either competitive grants or partners, so a variety of strategies are employed in pursuing funding to meet transportation needs.

CONSTRUCTION: Construction funding is used to make major repairs to existing buildings and structures and to construct new buildings or structures. Construction funding is requested on a project-by-project basis and is very modest (the FY 15 budget for example was \$3.4 million to complete six projects). The majority of major facility repairs are accomplished using deferred maintenance project funds.

LAND ACQUISITION: Strategic acquisition of new lands is a crucial tool to enable the still unfinished job of protecting diverse natural communities as part of the Refuge System. Acquisition of interests in land occurs through lease, purchase, exchange, donation, withdrawal from the public domain, or by management agreement. Primary funding for land acquisition comes from two sources: 1) Congressional appropriations under the Land and Water Conservation Fund, and 2) Migratory Bird Conservation Act funds, including proceeds from the sale of Duck Stamps and import duties on arms and ammunition.

Our Guiding Principles

The following principles guide the work of the National Wildlife Refuge System. These are long-standing principles reaffirmed in the *Conserving the Future: Wildlife Refuges and the Next Generation* vision.

- We are land stewards, guided by Aldo Leopold's teachings that land is a community of life and that love and respect for the land is an extension of ethics.
- We seek to reflect that land ethic in our stewardship and to instill it in others.
- Wild lands and the perpetuation of diverse and abundant wildlife are essential to the quality of the American life.
- We are public servants. We owe our employers, the American people, hard work, integrity, fairness, and a voice in the protection of their trust resources.
- Management, ranging from preservation to active manipulation of habitats and populations, is necessary to achieve Refuge System and U.S. Fish and Wildlife Service missions.
- Wildlife-dependent uses involving hunting, fishing, wildlife observation, photography, interpretation, and education, when compatible, are legitimate and appropriate uses of the Refuge System.
- Partnerships with those who want to help us meet our mission are welcome and indeed essential.
- Employees are our most valuable resource. They are respected and deserve an empowering, mentoring, and caring work environment.
- We are a science-based organization. We subscribe to the highest standards of scientific integrity and reflect this commitment in the design, delivery, and evaluation of all our work.
- We respect the rights, beliefs, and opinions of our neighbors.

Conserving the Future Vision

Between 2008 and 2010, the NWRS embarked on a strategic visioning process to identify new ways to accomplish our mission amid broad social, political, and economic changes. The process resulted in development of 24 recommendations, which are contained in *Conserving the Future: Wildlife Refuges and the Next Generation*, completed in 2010. Every partner, program, and refuge plays a dynamic role in implementing the recommendations. The strategic vision provides a path forward over the next decade and is crafted around three central themes: wildlife and wildlands; a connected conservation constituency; and leading conservation into the future. The *Conserving the Future* document and associated materials may be accessed at www.fws.gov/refuges/vision



Light of sunrise shines through conifers. Photo: Kurt Svendsgaard

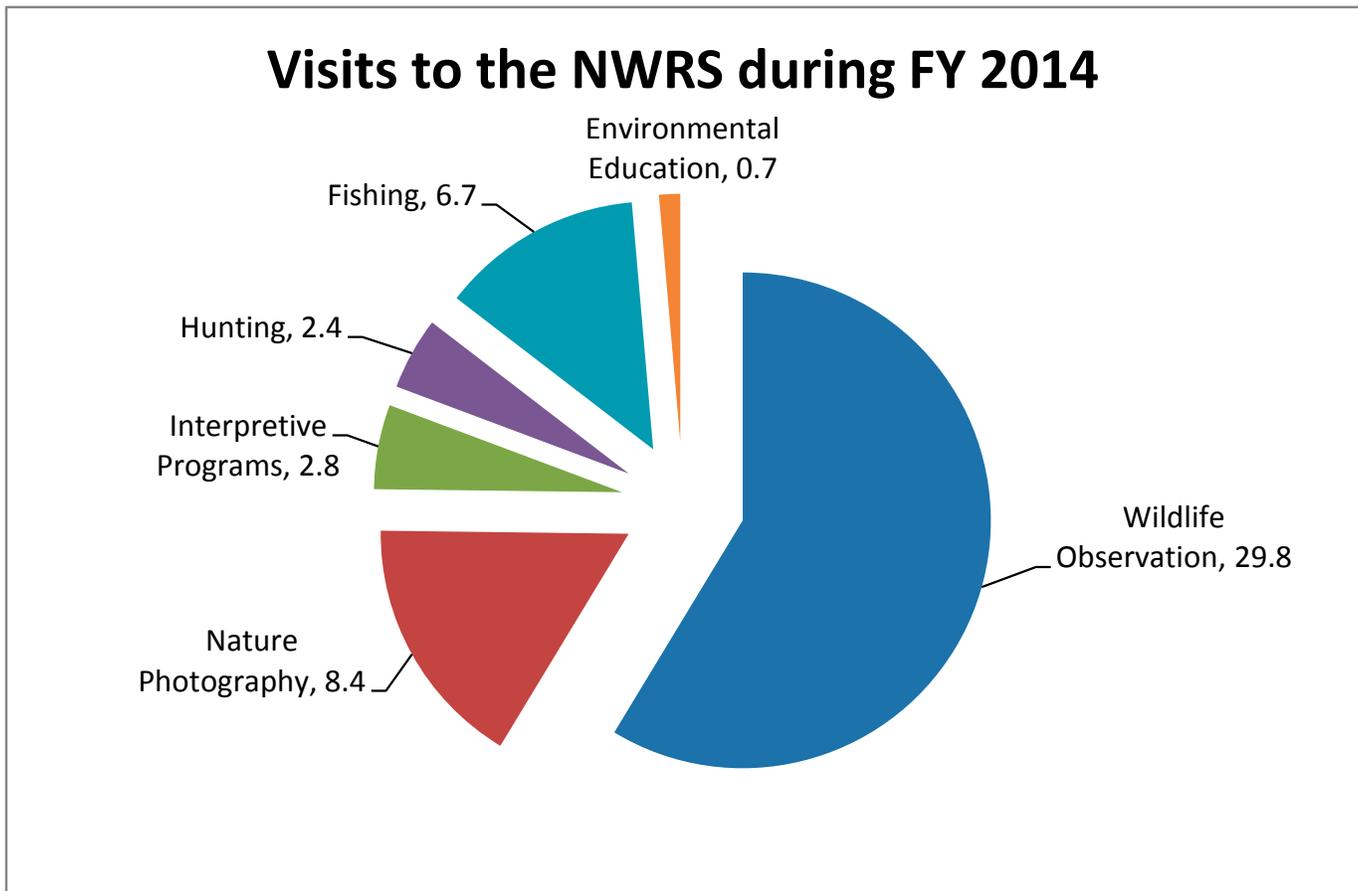
Wildlife Refuges are Valuable for Communities and People

The Refuge System is a place where the public can find unique recreation opportunities for the whole family. These include weekend excursions to see fields spotted with hundreds of sandhill cranes, father-child time spent on an early morning duck hunt, a raucous class of fourth graders on field trip exploring tide-pools, or a photography club patiently stalking a shot of a squawking blackbird perched on the cattails of a nearby pond. Refuges across the country are the public's places to spend leisure time alongside the nation's wilder residents taking in the sights, stretching in the open air and making memories with family and friends.

Refuges not only provide rest and relaxation for the public; they are powerful economic engines. National wildlife refuges hosted more than 47 million visitors in 2014 pumping

\$2.4 billion into the economy and creating about 35,000 jobs in local economies. Below is a distribution of visits - shown in millions - during FY 2014 for the six priority recreation uses. Please note that the graph displays numbers of individuals estimated to be participating in a particular activity; the total exceeds 47 million because visitors may participate in more than one activity during a visit.

The Refuge System strives to make refuges welcoming, safe, and accessible places for visitors, and to provide visitors a variety of ways to enjoy, learn about, appreciate, and help conserve fish, wildlife, and plants. While carrying out national conservation goals, we strive to be valued components of local communities. We also strive to foster an informed and engaged citizenry that actively supports and understands the value of conservation and the role of the National Wildlife Refuge System.



Collaborative Conservation: Shared Stewardship of Nature

Local communities and citizens have long played an important role in the history and stewardship of the National Wildlife Refuge System. Due to the number of units, the expansive acreage of the Refuge System, and a budget that is only about a quarter as large as the much smaller National Park Service, the NWRS relies on collaboration with diverse groups and citizens to conserve America's wildlife. Whether it is our long-time partnership with private landowners to conserve wildlife habitat; daily collaboration with thousands of volunteers to teach children about nature; working with neighbors to respond to emergency needs from floods and hurricanes; or newer collaborations with urban communities, the Refuge System has long seen its successes grow from strong relationships with local communities.

Volunteers — by far our largest collaborators -- contribute nearly 20 percent of the work hours performed on refuges. Volunteers of all ages, backgrounds, and interests facilitate recreation activities, habitat restoration, maintenance, administrative activities, and many other critical tasks. In FY 2014, nearly 36,000 volunteers contributed over 1.4 million hours of service to the Refuge System.

We also have the advantage of our close partners: Friends organizations. Refuges work alongside approximately 200 nonprofit Refuge Friends organizations that assist more than 300 refuges. These independent organizations are critical to building effective community relationships, leveraging resources, and serving as conservation ambassadors in their communities.

When a full-fledged Friends organization doesn't completely fit a community's needs, refuges innovate with other community partnerships, using written agreements to work together on a mutually beneficial project (for example, hosting an annual birding festival). These groups could include local chambers of commerce, state wildlife agencies, youth groups, faith-based groups, and even private businesses. One of the Refuge System's most visible current community partnerships is through the growing Urban Wildlife Conservation Program, which works to connect America's urban communities with the concept and goals of wildlife conservation and stewardship.

No matter your background, interests, or geographic location, the Refuge System invites you to join us in stewarding refuges through volunteering, joining a Friends organization, or becoming part of a community partnership effort.



*Children at Tualatin River National Wildlife Refuge in Oregon meet a rough-skinned newt.
Credit: USFWS*

A Legacy for Future Generations

The American character has been molded by its connections with the land, and its spirit fortified by a close connection to the wild creatures of prairie, forest, mountain, desert, coast, marsh, reef, and river. The Refuge System plays a key role in preserving this “wild legacy.” Two critical components of enabling the Refuge System to further this “wild legacy” are: assuring that existing lands and waters within the Refuge System are maintained in a healthy condition; and strategically growing the Refuge System so that all ecosystems within the U.S. receive conservation protection. These two goals are undergirded in law as described below.

The National Wildlife Refuge System Improvement Act of 1997 provides the Refuge System with the mission “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” The Act further directs the Secretary of the Interior to “ensure that the biological integrity, diversity, and environmental health of the System are maintained”; and “plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public.”

The Refuge System has a strong history of excellence in land and water conservation and in providing unique recreation opportunities; however, major challenges still remain.

Many existing refuge lands and waters face resource threats from either within or outside their boundaries. Many ecosystems of the U.S. are not under conservation protection and the Refuge System is still unfinished; much remains to be done if the System is to safeguard representative areas for all ecosystems of the country. Today the nation finds itself facing daunting challenges of climate change and human population growth that are placing increasing stress on the natural world. Endangered species and imperiled habitats abound. The nation is at a pivotal point where failure to act will mean that future generations will inherit an impoverished natural legacy.

The Refuge System is well poised to work with partners from all sectors (federal and state agencies, tribes, non-government organizations, business, and individuals) to reduce the specter of handing an impoverished natural legacy to future generations. The Refuge System’s history of expertise in restoration ecology, adeptness at working with a wide variety of partners, adaptability in land acquisition strategies, and ability to provide opportunities for Americans to get onto the land and enjoy nature firsthand bode well for the future. However, there is a continuing need to respond to the questions: What remains to be done to assure that existing Refuge System lands and waters are healthy?

What does a complete National Wildlife Refuge System look like? What gaps remain for the System and how best can we fill them?

Providing a healthy and complete National Wildlife Refuge System, as envisioned by past generations of conservationists, would stand as a treasured testament to the nation’s ability to pass on a lasting natural legacy to future generations. We invite you to join us as we strive to make the National Wildlife Refuge System the best that it can be.



Bison were introduced to Rocky Mountain Arsenal National Wildlife Refuge, Colorado, in 2007. Photo: USFWS

U.S. Fish & Wildlife Service
<http://www.fws.gov>

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