

Dated: October 1, 2001.

**Kevin Adams,**

Director.

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

RIN 1018-AH32

#### Endangered and Threatened Wildlife and Plants; Determination That Designation of Critical Habitat Is Not Prudent for the Rock Gnome Lichen

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), have reconsidered whether designating critical habitat for the rock gnome lichen (*Gymnoderma lineare*) would be prudent. We have again determined that such a designation would not be prudent. The rock gnome lichen was listed as an endangered species under the Endangered Species Act of 1973, as amended (Act), on January 18, 1995. At the time the plant was listed, we determined that the designation of critical habitat was not prudent because designation would increase the degree of threat to the species and/or would not benefit the species.

We determine that the designation of critical habitat is not prudent for the rock gnome lichen because it would likely increase the threat from collection, vandalism, or habitat degradation and destruction, both direct and inadvertent.

We have revised the proposed finding to incorporate or address comments and new information received during the comment period.

**DATES:** The finding announced in this document was made on September 27, 2001.

**ADDRESSES:** The complete file for this finding is available for public inspection, by appointment, during normal business hours at the Asheville Field Office, U.S. Fish and Wildlife Service, 160 Zillicoa Street, Asheville, North Carolina 28801.

**FOR FURTHER INFORMATION CONTACT:** Brian P. Cole, State Supervisor, (828) 258-3939, Ext. 223.

#### SUPPLEMENTARY INFORMATION:

##### Background

##### Taxonomy and Description

*Gymnoderma lineare*, first described by Evans (1947) as *Cladonia linearis*

from material collected in Tennessee, is a squamulose (scale-like) lichen in the reindeer moss family. This species is the only member of its genus occurring in North America (Yoshimura and Sharp 1968). *Gymnoderma* was considered a monotypic genus for over a century, until its revision by Yoshimura and Sharp (1968). These authors reclassified Evans' (1947) *Cladonia linearis* as *Gymnoderma lineare* on the basis of its short and solid podetia (hollow upright structures) that lack symbiotic algae (algae that live cooperatively with a fungus). *Gymnoderma lineare* occurs in rather dense colonies of narrow straps (squamules). The only similar lichens are the squamulose species of the genus *Cladonia*. *Gymnoderma lineare* has terminal portions of the straplike individual lobes that are blue-grey on the upper surface and generally shiny-white on the lower surface; near the base they grade to black (unlike squamulose *Cladonia*, which are never blackened toward the base) (Weakley 1988, Hale 1979). Hale's (1979) description of the species reads as follows: "Squamules dark greenish mineral grey; lower surface white to brownish toward the tips, weakly corticated; podetia lacking but small clustered apothecia common on low tips." Weakley (1988) further describes the species as having squamules about 1 millimeter (mm) (0.04 inches [in]) across near the tip, tapering to the blackened base, sparingly branched, and generally about 1 to 2 centimeters (cm) (0.39 to 0.79 in) long (though they can be longer or shorter, depending on environmental factors). The squamules are nearly parallel to the rock surface, but the tips curl away from the rock, approaching or reaching a perpendicular orientation to the rock surface. The fruiting bodies (apothecia) are borne at the tips of the squamules and are black (contrasting to the brown or red apothecia of *Cladonia* spp.) (Weakley 1988). The apothecia are borne singly or in clusters, usually at the tips of the squamules but occasionally along the sides; these have been found from July through September (Evans 1947, North Carolina Natural Heritage Program records 1991). The apothecia are either sessile or borne on short podetia 1 to 2 mm (0.04 to 0.08 in) in height, and the largest of these have a diameter of about 1 mm (0.04 in), with most being much smaller. The apothecia are cylindrical in shape and radial in symmetry (Evans 1947). The primary means of propagation of this lichen appears to be asexual, with colonies spreading clonally.

##### Distribution, Habitat, and Life History

*Gymnoderma lineare* (Evans) Yoshimura and Sharp is endemic (native to a particular region) to the southern Appalachian Mountains of North Carolina, Tennessee, South Carolina, and Georgia, where it occurs only in areas of high humidity, either on high-elevation cliffs that are frequently bathed in fog or in deep river gorges at lower elevations. It is primarily limited to vertical rock faces, where seepage water from forest soils above flows at (and only at) very wet times, and large stream-side boulders, where it receives a moderate amount of light but not high-intensity solar radiation. It is almost always found growing with the moss *Andreaea* in these vertical intermittent seeps. This association makes it rather easy to search for, due to the distinctive reddish-brown color of *Andreaea* that can be observed from a considerable distance (Weakley 1988). Most populations occur above 1,524 meters (5,000 feet) elevation. In Tennessee, it is apparently limited to the Great Smoky Mountains National Park (Park) and one other mountain on the North Carolina/Tennessee State line. Very little specific information is known about the life history and population biology of the rock gnome lichen. Other common species found growing with or near this species include *Huperzia selago*, *Stereocaulon* sp., *Scirpus cespitosus*, *Carex misera*, *Rhododendron* spp., *Saxifraga michauxii*, *Krigia montana*, *Heuchera villosa*, *Geum radiatum*, and sometimes *Juncus trifidus*. The high-elevation coniferous forests adjacent to the rock outcrops and cliffs most often occupied by the species are dominated by red spruce (*Picea rubens*) and Fraser fir (*Abies fraseri*).

Forty populations of *Gymnoderma lineare* have been reported historically; thirty-five remain in existence. The remaining populations are in Mitchell (two), Jackson (five), Yancey (four), Swain (one), Transylvania (four), Buncombe (four), Avery (two), Ashe (two), Haywood (one) and Rutherford (one) Counties, North Carolina; Greenville County (one), South Carolina; Rabun County (one), Georgia; and Sevier (seven) and Carter (part of this population is on the State line with Mitchell County, North Carolina) Counties, Tennessee.

##### Threats

Five populations of rock gnome lichen are known to have been completely extirpated. The reasons for the disappearance of the species at most of these sites are undocumented; however, one population is believed to

have been destroyed by highway construction. The explanation for the disappearance of the other four is a mystery. Among the other populations that still survive, one has been vandalized, and portions of two others are known to have been illegally collected. Although these acts of vandalism and collection did not completely eliminate the species at those latter sites, they did seriously reduce the population sizes and may well have adversely affected the species' chances of long-term survival at those places. Most of the formerly occupied sites are subjected to heavy recreational use by hikers, climbers, and sightseers, which can be highly destructive to the fragile plant communities that occupy vertical rock faces.

The majority of the high-elevation spruce-fir forests of the Southeast have suffered extensive changes and declines in extent or vigor during the past century as a result of several factors, including site deterioration due to the logging and burning practices of the early 1900s, possibly atmospheric pollution, exposure shock, and other factors not yet fully understood (Dull *et al.* 1988, White 1984). However, the greatest threat to the high-elevation Fraser fir forests, by far, is infestation by the balsam wooly adelgid (*Adelges picea* (Ratzeburg) (Homoptera, Adelgidae)). The balsam wooly adelgid is a nonnative insect pest believed to have been introduced into the Northeastern United States from Europe around 1900 (Eagar 1984). The adelgid was first detected in North Carolina on Mount Mitchell in 1957 (Hoffard *et al.* 1995), though it may have been established at that site as early as 1940. From Mount Mitchell, the adelgid spread to Fraser fir stands throughout the southern Appalachians (Eagar 1984). All ages of fir trees are attacked by the adelgid, but effects are generally not lethal until the trees reach maturity, at around 30 years of age (Hoffard *et al.* 1995). Most mature Fraser firs are easily killed by the adelgid, with death occurring within 2 to 7 years of the initial infestation (Eagar 1984). The death of the fir trees and the resultant opening of the forest canopy causes the remaining trees (including the red spruce) to be more susceptible to wind and other storm damage. The adelgid is transported and spread primarily by the wind but may also be spread by contaminated nursery stock; on the fur or feathers of animals and birds; or by humans on contaminated clothes, equipment, or vehicles (Eagar 1984). All efforts to control the spread of the adelgid have failed thus far. The death

of the forests above the rock faces occupied by the rock gnome lichen has resulted in locally drastic changes in microclimate, including desiccation and increased temperatures, which can prove lethal to this species.

The continued existence of this species is threatened by trampling and associated soil erosion and compaction; other forms of habitat disturbance due to heavy recreational use of some inhabited areas by hikers, climbers, and sightseers; and development for commercial recreational facilities and residential purposes. It is also threatened by collectors and vandals and is potentially threatened by logging, and possibly by air pollution. In addition, the extremely limited and restricted range of each of the rock gnome lichen populations makes them extremely vulnerable to extirpation from a single event. Currently, no one has succeeded in propagating the rock gnome lichen.

Only 7 of the remaining 35 populations cover an area larger than 2 square meters (m<sup>2</sup>) (2.4 square yards (yd<sup>2</sup>)). Most are 1 m<sup>2</sup> (9 square feet (ft<sup>2</sup>)) or less in size. It is unknown what constitutes a genetic individual in this species, and it is possible that each of these small colonies or patches consists of only a single clone (Weakley 1988). Over the past decade several of the currently extant populations have undergone significant declines (Dr. Paula DePriest, Associate Curator in Charge of Lichen Collections, National Museum of Natural History, Smithsonian Institution, personal communication, 1992; Karin Heiman, environmental consultant, personal communication, 1992), some within as little as 1 year (Alan Smith, environmental consultant, personal communication, 1992). Although most of the remaining populations are in public ownership, they continue to be impacted by collectors, recreational use, and unknown environmental factors.

In a recent study funded cooperatively by the Service and the U.S. Forest Service (Forest Service), experts in lichenology and air pollution attempted to determine if air pollution constituted a significant threat to the rock gnome lichen, as it does to many lichen species. The study could not conclusively link documented declines with atmospheric pollutants. Heavy metal concentrations did not exceed toxic levels. However, the lowest sulfur concentrations were measured in the colonies having the best health status, and the highest concentrations were in colonies with the worst health conditions. The authors of the study warned that future increases in sulfur

compound deposition might cause damage to the rock gnome lichen, especially where it occurs on substrates with low buffering capacity. The results of the study were further complicated by the discovery of parasitic algae and lichens that were found to be attacking the rock gnome lichen in several populations. The relationship between these parasitic organisms and environmental factors, such as sedimentation and the accumulation of sulfur and phosphorus, requires further study (Martin *et al.* 1996).

#### *Previous Federal Actions*

Federal Government actions on *Gymnoderma lineare* began with the 1990 publication in the **Federal Register** of a revised notice of review of plant taxa for listing as endangered or threatened species (55 FR 6184); *Gymnoderma lineare* was included in that notice as a category 2 species. Prior to 1996, a category 2 species was one that we were considering for possible addition to the *Federal List of Endangered and Threatened Wildlife and Plants* but for which conclusive data on biological vulnerability and threats were not available to support a proposed rule. We discontinued the designation of category 2 species in the February 28, 1996, Notice of Review (61 FR 7956).

Subsequent to the 1990 notice, the Service received additional information from the North Carolina Natural Heritage Program (Alan Weakley, North Carolina Natural Heritage Program, personal communication, 1991) and the Smithsonian Institution (P. DePriest, personal communication, 1992). This information and additional field data gathered by us, the North Carolina Natural Heritage Program, and the National Park Service (Park Service) (Keith Langdon and Janet Rock, Park, personal communication, 1992; Bambi Teague, Blue Ridge Parkway, personal communication, 1991) indicated that the addition of *Gymnoderma lineare* to the Federal candidate list of endangered or threatened plants was warranted. A candidate species is a species for which we have on file sufficient information to propose it for protection under the Act.

The Service approved this species for elevation to category 1 status on August 30, 1993, and proposed it for listing as endangered on December 28, 1993 (58 FR 68623). The proposal provided information on the species' range, biology, status, and threats to its continued existence. The proposal included a proposed determination that designation of critical habitat was not prudent for the species because such designation would not be beneficial and

could further threaten the rock gnome lichen. Through associated notifications, we invited comments on the proposal and factual reports or information that might contribute to the development of a final finding. We contacted and requested comments from appropriate Federal and State agencies, county governments, scientific organizations, individuals knowledgeable about the species or its habitat, and other interested parties. We published legal notices, which invited public comment, in newspapers covering the range of the rock gnome lichen. We received 15 written comments. Eleven of these expressed strong support for the proposal, as presented, without critical habitat. One commentor presented additional information without stating a position. One additional commentor took no position on the proposal but expressed a negative view toward the potential designation of critical habitat. Two commentors opposed the proposal; one stated no reason for opposition, and the other expressed the opinion that logging was not a potential threat to the lichen and that extinction is a natural process.

Following our review of all the comments and information received throughout the listing process, by final rule (60 FR 3557) dated January 18, 1995, we listed the rock gnome lichen as endangered. We addressed all the comments received throughout the listing process and incorporated changes into the final rule as appropriate. That decision included a determination that the designation of critical habitat was not prudent for the rock gnome lichen, because, after a review of all the available information, we determined that such a designation would not be beneficial to the species and that the designation of critical habitat could further threaten the lichen.

On June 30, 1999, the southern Appalachian Biodiversity Project and the Foundation for Global Sustainability filed a lawsuit in United States District Court for the District of Columbia against the Service, the Director of the Service, and the Secretary of the Department of the Interior challenging the not prudent critical habitat determinations for four species in North Carolina—the spruce-fir moss spider (*Microhexura montivaga*), Appalachian elktoe (*Alasmidonta raveneliana*), Carolina heelsplitter (*Lasmigona decorata*), and rock gnome lichen. On February 29, 2000, the U.S. Department of Justice entered into a settlement agreement with the plaintiffs in which we agreed to reexamine our prudency determination for the rock gnome lichen

and submit a new proposed prudency determination to the **Federal Register** by April 1, 2001. We also agreed to submit by that same date a new proposed critical habitat determination, if prudent. We agreed that, if upon consideration of all available information and comments, designation of critical habitat was not prudent for the rock gnome lichen, we would submit a final notice of that finding to the **Federal Register** by October 1, 2001. We also agreed that if the designation of critical habitat was prudent for the rock gnome lichen, we would send a final rule of this finding to the **Federal Register** by January 1, 2002.

On April 5, 2001, we published in the **Federal Register** (66 FR 18062) our proposed finding that critical habitat designation for the rock gnome lichen would not be prudent. On April 5, 2001, we also notified appropriate Federal and State agencies, local governments, scientific organizations, individuals knowledgeable about the species, and other interested parties and requested their comments on the proposal. A legal notice that announced the availability of the proposed finding and invited public comment was published in the following newspapers: *Mitchell News Journal*, Spruce Pine, North Carolina; *Greenville News*, Seneca, South Carolina; *Mountaineer*, Waynesville, North Carolina; *Smoky Mountain Times*, Bryson City, North Carolina; *Yancey Common Times Journal*, Burnsville, North Carolina; *Transylvania Times*, Brevard, North Carolina; *Asheville Citizen-Times*, Asheville, North Carolina; *Avery Journal*, Newland, North Carolina; *Clayton Tribune*, Clayton, Georgia; *Tennessee Star Journal*, Pigeon Forge, Tennessee; *Rutherford City News*, Rutherfordton, North Carolina; *Mountain Times*, West Jefferson, North Carolina; and the *Sylva Herald*, Sylva, North Carolina.

In the proposed finding and associated notifications, we requested that all interested parties submit factual reports or information by June 4, 2001, that might contribute to our determination and the development of the final finding.

#### *Prudency Determination*

Section 4(a)(3) of the Act and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, we designate critical habitat at the time a species is determined to be endangered or threatened. Regulations under 50 CFR 424.12(a)(1) state that the designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is threatened by taking

or other activity and the identification of critical habitat can be expected to increase the degree of threat to the species or (2) such designation of critical habitat would not be beneficial to the species. In our January 18, 1995, final rule, we determined that both situations applied to the rock gnome lichen.

We have documented evidence that collecting and other human disturbance have already detrimentally affected this species. Concern that the species would be over-collected by lichenologists led Mason Hale to state emphatically in his 1979 book, *How To Know the Lichens*, which is the standard reference for lichen identification for amateurs and professionals alike, that the rock gnome lichen “is one of the most unusual endemic lichens in North America and should not be collected by individuals.” Nevertheless, populations of rock gnome lichen have been decimated by scientific collectors. Dr. Paula DePriest (personal communication, 1992) observed that the type locality for rock gnome lichen was virtually wiped out by lichenologists who collected them during a field trip, in spite of the fact that this collection occurred within a national park and was not permitted. After the species was listed, another illegal collection occurred at a different location within a national park. Another population outside the Park was vandalized for unknown reasons (the lichens were scraped off the rock to form graffiti). Illegal collection and/or vandalism is difficult to document, but it is suspected as a possible cause for the precipitous declines in some of the other populations that are close to trails or roads. Some of these populations have been reduced in coverage by as much as 90 percent in a single year. A State park in South Carolina, upon discovering a small population of this species close to an existing trail, relocated the trail away from the rock face to deter potential collectors.

The Park Service, which developed the recovery plan for this species in cooperation with the Service, requested that we remove any mention of particular mountains from the recovery plan because they feared that this would give enough information to knowledgeable collectors to allow them to find the lichen and collect it. Park Service personnel believe that divulging locations or producing maps of rock gnome lichen habitat would greatly compromise their ability to protect the species within the national parks where it occurs (K. Langdon and J. Rock, Park Service, personal communication, 1999).

Three internationally recognized lichen experts are on record as being opposed to making public the specific locations of rare lichens because of the danger from collectors (P. DePriest, personal communication, 2000; J. Dey, Illinois Wesleyan University, personal communication, 2000; J. Martin, EuroUniversity, Estonia, personal communication, 2000). Dr. DePriest emphasized that, for rare lichens, the Smithsonian deliberately deletes location data from its publically disseminated database. She further related several incidents where the collecting of rare lichens damaged other species in areas within the range of the rock gnome lichen. In at least one instance, this collecting was done on a field trip led by professional lichenologists who had forewarned the participants that no collecting of rare species would be tolerated; the rarest species were collected anyway, when the field trip leaders were not looking. Dr. Juri Martin, Rector of Estonia's EuroUniversity, further emphasized the danger of making public the locations of rare lichen species. In Estonia, as well as in Italy, Switzerland, and other European countries, databases with specific location data for rare lichen species are kept in guarded locations where only a few professionals have access to them. They are never made public because of the danger of collecting. Dr. Martin emphasized that in these countries, regulations prohibiting the collection of rare species, have been ineffective; the only real protection for those lichens is the safeguarding of specific location data and maps. Nothing more specific than county or forest distribution is ever made public. Dr. Martin recommended that rock gnome lichen be included on the World Red List of Endangered Lichens. Dr. Jon Dey, eminent lichenologist at Illinois Wesleyan University, further emphasized that he believed it would be inadvisable to publish specific location data for endangered lichen species because the general public and hobbyists could, as a result, inadvertently, or even purposely, damage them. He further stated his belief that, although it might be necessary to allow legitimate professionals access to a single closely monitored population for the purposes of observation and research, even scientists should not be able to collect endangered lichens from the wild.

The Great Smoky Mountains National Park (Park) has recently undertaken an All Taxa Biodiversity Inventory. In the process of this comprehensive survey, experts on different taxa from all over

the world are being brought into this half-million-acre park to inventory and document occurrences of all species within its boundaries. In the process of this ambitious inventory, several watersheds within the Park were identified by experts as having internationally significant concentrations of rare bryophytes and lichens, and the guest scientists petitioned the Park Service to formally designate these areas as lichen/bryophyte sanctuaries (K. Langdon, personal communication, 2000). The Park Service declined because of their fear of attracting collectors to the areas; not only collectors of rare species, but indiscriminate moss collectors who routinely ravage the Park and the adjacent national forests for "log moss" to sell in mass quantities (truck loads have been confiscated from poachers in the Park) in the commercial florist trade.

Rock gnome lichen is extremely fragile and is easily scraped off its rocky substrate; denuded habitat is not recolonized quickly, if at all. Because this species occupies such limited areas (with most of the populations being less than a square meter in size), even a single person climbing on a rock face could cause significant damage to the species and its habitat that could lead to the extirpation of an entire population. Increased visits to population locations stimulated by critical habitat designation, even without deliberate collecting, could adversely affect the species due to the associated increase in trampling of its fragile habitat. We believe that the designation of critical habitat and the required public dissemination of maps and descriptions of occupied sites could result in the demise or severe diminishment of this species. The moss collectors or poachers (referred to above) that the Park Service is trying to combat have been caught leaving the Park with dump truck loads full of moss and anything that looks like moss, including lichens, liverworts, and other bryophytes. Many species of moss and lichens are superficially similar in appearance and are similarly decorative in floral arrangements. Earlier, we mentioned that the rock gnome lichen is almost always found growing with the moss *Andreaea*. These collectors or poachers are indiscriminate, stripping everything mosslike from logs, rocks, and trees within entire coves and watersheds. This includes essentially anything they think can be sold in the commercial florist trade. The largest and best remaining populations of rock gnome lichen are located within the Park, where they are more accessible and therefore more susceptible to

intentional or inadvertent collection. Therefore, the Park Service has expressed concerns that attracting moss collectors to watersheds designated as sanctuaries and occupied by the endangered lichen could result in devastating incidental collection of the listed species.

The Park Service has expressed definite concerns about any plans to designate critical habitat for the rock gnome lichen because of the collection danger to this species' tiny, vulnerable populations. In fact, legislation has recently been enacted that gives the Park Service the authority to withhold from the public any specific locality data for endangered, threatened, rare, or commercially valuable resources within a park (Pub. L. 105-391, Section 207; 16 U.S.C. 5937).

Given the very small size of most colonies and the slow growth rate of this species, extirpation of individual colonies by collecting, vandalism, and habitat degradation by curiosity seekers is likely (Weakley 1988; personal observation). Many of the populations are easily accessible, being close to trails or roads, but they are currently unadvertised and therefore mostly unnoticed by the general public. Publicity could generate an increased demand and intensify collecting pressure or facilitate opportunities for further vandalism. This species has already been subjected to excessive collecting by scientific collectors at several sites. Increased publicity and a provision of specific location information associated with critical habitat designation could result in increased collection from the remaining wild populations. Although the taking of endangered plants from land under Federal jurisdiction and reduction to possession is prohibited by the Act, the taking provisions are difficult to enforce. We believe the publication of critical habitat descriptions would make the rock gnome lichen more vulnerable to collectors and curiosity-seekers and would increase enforcement problems for the Forest Service and Park Service. Also, the populations on private land would be more vulnerable to taking, where they receive little or no protection under the Act.

Our fears of increased human threats to the species from the publication of maps of the occupied sites is based on specific experience, not on conjecture. Another federally listed North Carolina mountain plant for which critical habitat was designated was severely impacted by collectors immediately after the maps were published. This collection happened even though this plant was not previously known to be

desired by rare plant collectors and had never been offered for sale in commercial trade. Some of the collectors appeared in the local Forest Service district offices, with the critical habitat map from the local newspaper in their hands, asking directions to the site. Such incidents are extremely difficult to document. The only reason we were able to do so in this case was because, for this very rare and restricted plant, every individual was mapped. When plants vanished from our permanent plots, we were able to find the carefully covered excavations where they had been removed. Otherwise, we would have only observed a precipitous crash in the populations without knowing that the cause was directly attributable to collection, apparently stimulated by the publication of specific critical habitat maps.

Increased visits to rock gnome lichen colonies, stimulated by a critical habitat designation, even without collection of the species, could adversely affect the rock gnome lichen due to the associated increase in trampling of the fragile habitat it occupies. This might not be as serious a concern in other parts of the country where there is relatively little recreational pressure, but the Park has more visitors annually than any other National Park in the United States. Even if just a small percentage of those people visited the sites occupied by the lichen, the potential adverse effects to the species could be tremendous and irreparable.

Despite attempts by lichenologists and tissue culture experts, no one has been able to propagate the rock gnome lichen. If populations are vandalized or collected to the point of extirpation, it is not possible to restore them. Similarly, the restoration of devastated populations of other lichens has often not been successful (Science News, August 2000). We believe anything that increases the chances of losing additional populations, such as publicizing locations of remaining sites, represents an unconscionable risk to the species' chance of survival and recovery.

In addition, we believe that the designation would not provide significant benefits that would outweigh these increased risks. A majority of the remaining populations are on public land, primarily under the jurisdiction of the Forest Service and Park Service. These agencies are cooperating with us to protect the species from trampling and inappropriate collection, as well as to monitor the effects of air pollution. We are also working with the North Carolina and Tennessee Heritage Programs, the North Carolina Plant

Conservation Program, and The Nature Conservancy to determine protection priorities for the remaining populations. The Nature Conservancy has recently secured a conservation easement for one of the most significant privately owned sites. We, along with all of these agencies, work to inform the public about the lichen and its importance, while at the same time ensuring the protection of the species and its habitat from potential threats. Within the Park, there is no commercial logging. Occupied sites outside the Park are almost exclusively on steep rock faces and cliffs, where no Federal projects are likely to occur. In cases where excessive degradation of the lichen's cliff habitat has resulted from recreational overuse, both the Park Service and the Forest Service have acted to close those sensitive areas to the public. No greater protection would be afforded by critical habitat designation.

The Service has always recognized the value of habitat to the conservation of endangered and threatened species and continues to work with other agencies and non-Federal land managers to accomplish the most effective protection and management of land critical to the survival of listed species. The Federal and State agencies and landowners involved in managing the habitat of this species have been informed of the species' locations and of the importance of protection. In addition, we are working with several private landowners of significant sites to protect the populations on their lands. Although we have not yet been able to definitively link population declines in the rock gnome lichen to air pollution, we remain concerned that air quality may be an important factor for this species, as it is for many other lichens. The largest and best remaining populations of the rock gnome lichen are within the Park, which is designated by the Environmental Protection Agency as a Class I Air Quality Area, where no degradation of air quality is allowed. Therefore, the designation of areas of the Park as critical habitat for this species would offer no additional protection of the species from air quality problems if these are determined to be a critical factor for this species' continued existence.

For species, like the rock gnome lichen, that have extremely small populations (most are less than 1 m<sup>2</sup> [approximately 9 ft<sup>2</sup>]) and a very small, restricted range, the triggers for "jeopardy" and "adverse modification" of critical habitat under section 7 of the Act are essentially identical. Because the triggers for "jeopardy" and "destruction or adverse modification" of

critical habitat both require that the Service find that a Federal action is likely to have an appreciable effect on both the survival and recovery of the species, we have determined that, because of the precarious status of the species, the small size of the surviving populations, the restricted range of the species, and the limited amount of suitable habitat available to the species, any Federal action with the potential to trigger the standard for destruction or adverse modification of critical habitat would also jeopardize the species' continued existence (the jeopardy standard without critical habitat). Therefore, no additional protection would be provided to this species through the designation of critical habitat that would not already be provided through the jeopardy standard. We acknowledge that critical habitat designation in some situations may provide some value to the species; for example, by identifying areas important for conservation. However, for the rock gnome lichen, we have weighed the potential benefits of designating critical habitat against the significant risks of doing so and find that the minor benefits of designating critical habitat do not outweigh the potential increased threats from collection, vandalism, and inadvertent habitat degradation caused by curiosity-seekers. Therefore, we have determined that the designation of critical habitat for the rock gnome lichen is not prudent.

#### **Summary of Comments and Recommendations**

We received a total of ten comments during the comment period. Written comments were received from two Federal agencies, three State agency representatives, three private individuals, and two conservation organizations. Seven of the ten commentors wrote in support of the Service's proposed finding that the designation of critical habitat would not be prudent for the rock gnome lichen. One individual and one conservation organization (the latter was the plaintiff in the above-mentioned suit against the Service) thought the Service should designate critical habitat for the lichen. One individual did not express an opinion but thought the public needed more information about the need to protect the lichen. We grouped comments of a similar nature or subject matter into broader issues. These issues and our response to each are summarized below.

*Issue 1:* The seven commentors that supported the Service's decision included all of the Federal and State agencies, and one private and one

conservation organization. These letters emphatically supported the Service's decision that the designation of critical habitat for the lichen would not be prudent because of the dangers from collectors, vandals, and habitat destruction caused by curiosity-seekers and believed that our proposed finding was consistent with the purposes of the Act. The head of the North Carolina Plant Conservation Program (North Carolina has almost all the remaining populations of this species) stated that his agency had been working to protect the lichen for 15 years and that:

We are strongly opposed to designation of critical habitat for rock gnome lichen. This is one of those species for which designation of critical habitat, intended to enhance protection of the species, could be expected to have the opposite effect, with disastrous consequences \* \* \*. Based on our experience with this species we can see no benefits from designation of critical habitat. On the contrary, we believe that designation of critical habitat in this case would be dangerously irresponsible, threatening the species our agency and the State of North Carolina are trying to protect.

The botanist for the North Carolina Department of Environment and Natural Resources' Natural Heritage Program also agreed with the Service's determination that the designation of critical habitat would not be prudent for the rock gnome lichen. She further stated:

One of the populations of rock gnome lichen occurs within a state park. The Division of Parks and Recreation is opposed to public release of information on the location of rock gnome lichen on state property. Such a release could be detrimental to the population by making it more vulnerable to excess visitation, collection, or vandalism.

The Chief Ecologist for the Association for Biodiversity Information (formerly a branch of The Nature Conservancy) also supported the Service's proposed finding, stating:

I agree with and strongly support the Service's "reproposal" that the designation of critical habitat would have a detrimental effect on the recovery of this species \* \* \*. I provided much of the original information on populations of and threats to this very restricted and distinctive species. Populations are small and very vulnerable to damage by collectors, a fact which Mason Hale went out of his way to make, even in his 1979 field guide. Since that time, several populations with which I am familiar have been severely impacted by collectors, who probably did not consider the damage they were causing. Furthermore the potential for actual malicious damage is very real \* \* \*. The Service's original determination was prudent, and I commend the Service for resisting pressure to reverse that decision to a less prudent one.

The Superintendent of the Blue Ridge Parkway, National Park Service, stated:

We commend and support the decision by U.S. Fish and Wildlife Service to not designate critical habitat for the endangered rock gnome lichen (*Gymnoderma lineare*). It is our opinion that designating critical habitat does not afford additional protection to any federally listed species, but especially to *Gymnoderma* because of the sensitive and fragile nature of the species makes it particularly vulnerable to disturbance \* \* \* the small area (less than 2 square meters) occupied by patches makes it more vulnerable; and the slow growth rate makes recovery from disturbance difficult, if not impossible. The greatest threat to rock gnome lichen populations in this park is trampling from hikers and rock climbers. The Blue Ridge Parkway has made significant efforts to protect populations of *Gymnoderma*, including closing fragile areas to visitor use. In addition, we are also gravely concerned about over-collecting by researchers and plant collectors \* \* \* Publicizing critical habitat maps for *Gymnoderma* will undoubtedly make our job of protecting these populations far more difficult as collectors and curious visitors access these sites and purposefully or inadvertently trample or otherwise impact this species. We firmly believe that specific locations of rare species should never be disclosed to the general public. Indeed, the National Park Service has authority under the Thomas Bill (16 U.S.C. 5937, Section 207) to withhold from the public any specific locality data for endangered, threatened, rare, or commercially valuable resources within a park.

The botanist for the North Carolina Plant Conservation Program stated:

I strongly agree with the US Fish & Wildlife proposal not to designate critical habitat for the endangered lichen *Gymnoderma lineare* (rock gnome lichen) \* \* \* As botanist for the North Carolina Plant Conservation Program for the last fourteen years, I have grown increasingly aware of the need to protect information on the locations of rare plant species. I have seen where obscurely located *Sedum rosea* plants had disappeared, apparently removed by an enthusiast whose desire to collect was greater than the impulse to protect. I have seen holes in the ground where Venus flytraps had recently grown. I have gotten reports of pitcher plants stolen from protected locations by unlawful, self-justifying "rescuers." As Ginseng Coordinator I have many, many tales of poached ginseng. A great deal of effective work has been and is being put into the protection of endangered plant populations, without critical habitat having been designated for any of them. A designation of critical habitat offers no more protection for most endangered plant species than they have without it. Making locations a matter of readily accessible public record exposes the species to damage and exploitation by unethical collectors—I'm amazed at how many such there are, collecting for self-satisfaction or for money—or even photographers and curious botanical enthusiasts who disturb the habitat—critically—just to get close to the plant. Rock

gnome lichen, specifically, grows where much of it is already protected and land managers are aware of it and its management needs. The lichen will not benefit from a designation of critical habitat. If critical habitat were to be designated and locations published, the species would be in critical danger from lichen collectors. Yes, there are lichen collectors, and there is a market for lichens. I hope the [Service] will stand firm in its determination to protect this unique species by not designating critical habitat. Rock gnome lichen deserves all the truly effective help it can get.

The Assistant Superintendent of the Great Smoky Mountains National Park (where the vast majority of the remaining populations of rock gnome lichen survive) emphatically agreed with the Service's not prudent finding, stating:

As you are aware, we have worked closely with the U.S. Fish and Wildlife Service on a number of Threatened and Endangered species issues over the years. Few issues are as important to the long-term preservation of these sensitive species as is the ability to keep their locations confidential. \* \* \* Once the specific habitats [of rare species] become generally known, the rare species there are permanently subject to a wide array of deleterious actions including intentional taking, politically-motivated vandalism, trampling, or disturbance by the curious and well meaning. Our ability to detect illegal actions by periodic monitoring is usually cursory at best \* \* \* Within the last year, a number of individuals of another federally listed plant in this park were intentionally vandalized/killed, even though they were within an area closed and posted to the public \* \* \* Since there will never be enough law enforcement staff, even in the relatively well-policed national parks, to protect these species, we must rely on the confidentiality of their locations to the maximum extent possible. \* \* \* In one incident, a population of this species [the lichen] was subject to unbridled collection for scientific specimens some years ago and has never fully recovered. It is now down to a few square inches at this particular site. We believe that illegal collecting at this "known" site, perhaps repeatedly, was an important factor in its decline. If critical habitat were to be designated \* \* \* it would not be difficult for illegal collectors to discover occurrences, even if they are in the Park's backcountry. It is quite easy for a knowledgeable person to read about the species' habitat requirements and find the few points within a delineated area that the listed species could possibly occur. Designating CH (critical habitat) at a very broad geographic resolution defeats the purpose of publishing a map of CH and encumbers host land managing agencies with burdensome restrictions over very large areas where the species is known NOT to occur. In the 1990's, the Park received a request from a lichenologist who wished to have a site that has the rock gnome lichen designated as one of the first "lichen reserves" in the U.S. The Park specifically declined this request because of the greatly increased visitation

that the fragile habitat would receive. The opinion of Park biologists at that time was that although most scientists are conservation oriented, only a few collections or visits by groups over the intervening decades would be all that was necessary to cause a drastic decline. The Omnibus Parks Act of 1998, usually referred to as the "Thomas Act," gives the National Park Service the ability to exempt locational information about rare, commercially valuable, or otherwise collectable species from public disclosure. Under the Thomas Act, we would not allow any specific locational information to be disclosed about this lichen for the reasons given. If the [Service] is forced to designate Critical Habitat over the objections of the National Park Service, we question the legality of this action. We would also question to what degree the two Federal agencies would be able to fully cooperate and share data in the future. The best strategy, we believe, is for the [Service] and other land management agencies to continue to work together toward recovery of these species to a point where they can be delisted. \* \* \* While citizens have the right to know what species occur on their public lands and their status, we believe that publication of rare species locations in any form is almost never in the public interest, does not meet the Congressional mandate of the National Park Service, and is counter both to the intent of the Thomas Act and the spirit of the Endangered Species Act.

*Response:* The Service concurs.

*Issue 2:* One commentor, taking no position on critical habitat designation, expressed concern that the public needs more information about the need to protect the rock gnome lichen and that she was concerned that she had unknowingly damaged the species while rock climbing on the Blue Ridge Parkway at one of the occupied sites.

*Response:* The Service agrees that more public education is needed about the need to protect this and other rare lichens, and we are working to accomplish this with other agencies and organizations. There is no likelihood that the commentor damaged rock gnome lichen at this national park site, because the Service has made the Park aware of the lichen's occurrence there, and the Park has taken actions to close off the areas occupied by the lichen to recreational use.

*Issue 3:* Two commentors expressed the opinion that the Service's decision not to designate critical habitat for the rock gnome lichen was not in the best interest of this species. Further, the commentors believed that the Service should at least designate unoccupied areas in order to provide habitat for the species.

*Response:* The Endangered Species Act (Act) mandates that we analyze each species' situation individually, weighing the costs versus the benefits of designating critical habitat. While for

some species it is not particularly dangerous to publish maps of specific occupied sites, for a collected species like the rock gnome lichen, the case is entirely different. Although experts in the field of tissue culture and lichenology have attempted to cultivate rock gnome lichen, it has never been successfully accomplished. Transplanting it is not possible to transplant it or otherwise establishing it in areas of currently unoccupied habitat is therefore not possible. No documentation exists of the lichen regrowing at sites where it has been completely eliminated. Therefore, the designation of unoccupied critical habitat for this species serves no useful purpose.

*Issue 4:* The same individual expressed the opinion that, "arguments that designated habitat would lead to rampant collection or intentional harm of the lichen don't really hold up to close scrutiny. This is not some fabulous orchid we're talking about."

*Response:* As evidenced by the numerous comments received from expert botanists and professional natural resource managers who have been trying to protect this species for the past 15 years or more, a definite threat to the lichen exists from collectors and vandals. Instances of this have been documented repeatedly, even in protected areas such as National Parks. For plants on private land, the Act offers no protection from taking, so those populations are even more vulnerable to this type of activity.

*Issue 5:* The same individual stated the following:

While it is far easier and cheaper to find reasons *not* to provide protection for endangered species, it is not ethically (or morally) correct. \* \* \* I hope you'll take appropriate action to provide habitat for the rock gnome lichen, for present and future conditions. This is a nice way of saying: Please do your job.

*Response:* The Service has taken considerable action, in cooperation with other agencies and landowners, to provide protection for this species on public and private land. At our recommendation, public trails have been routed away from the vicinity of the lichen, observation platforms have been built at popular sites to protect the lichen's sensitive habitat from trampling, certain rock faces have been made off-limits to climbers, and we have funded cooperative studies to determine if the lichen is suffering from the effects of air pollutants. Our law enforcement division has investigated reports of illegal collecting from Federal land. It is clear that the experts on this species, as well as the other public

agencies charged with protecting it, strongly support our contention that the designation of critical habitat is not in the best interest of the rock gnome lichen and, therefore, should not be done.

*Issue 6:* The other one of the two commentors who did not support the Service's proposed finding contended that location information is already available to the public, citing that the location of 1 of the 35 remaining populations of this species is described in public documents.

*Response:* The fact that one population's whereabouts are known does not mean that it is a good idea to divulge the same information about the other 34 populations, which are not known. In fact, the Park Service recently took action to close the site of this specific population to all public visitation because of increasing declines in the population. As emphatically noted by all the public agencies above, both State and Federal, that are charged with protecting this species, as well as one private conservation organization, divulging specific location information for this species is dangerous and compromises its chances of survival and recovery in the wild.

*Issue 7:* The same commentors commented that the Service had not analyzed whether identifying areas as critical habitat would educate recreational users, making them more careful and less likely to harm the lichen.

*Response:* As noted by State and Federal agency experts above, even well-meaning people can cause irreparable damage to a species like the rock gnome lichen if they know where populations occur. Since most of the populations are less than a square meter in size and since this species grows on rocks where it can be scraped off and annihilated by a single person's boots, innocent curiosity-seekers wanting to get a closer look at the species can cause irreparable harm to it.

*Issue 8:* The same commentors stated that the proposal indicated that air pollution is a problem but that the Service only considered impacts on the Park in making a no-additional-benefit determination. They further stated their belief that critical habitat designation will, in fact, provide an avenue for improving air quality by forcing polluters to consider the impacts to the lichen outside the Park.

*Response:* The commentors apparently misunderstood the proposed finding. In it we stated that, in spite of studies we funded specifically to determine if air pollution has an effect on the lichen, to date we have not been

able to prove that a cause-and-effect relationship exists between air pollution and rock gnome lichen declines, even though this relationship has been shown for other lichens in various parts of the world. Different lichen species have different sensitivities to specific air pollutants; in fact, some European species even thrive on increased sulphur levels in the atmosphere and expand their populations in response. We fully intend to pursue further studies of this issue to try to determine the causes for lichen declines. Regardless of whether critical habitat has been designated, Federal agencies are required by the Act to evaluate the direct and indirect effects of their actions on listed species and ensure that their actions are not likely to jeopardize the continued existence of listed species. Therefore, any Federal activity that has the potential to adversely affect the rock gnome lichen is already subject to the provisions of the Act. However, as we have already stated, at present we have no specific data that indicate air pollutants are causing declines in the lichen. If in the future such data becomes available, we will work to ensure, as we always have, that any Federal agency involved honors its responsibilities under section 7 of the Act, which apply regardless of whether critical habitat is designated. Meanwhile, the Environmental Protection Agency's Class I Air Quality Area designation for the Park offers strict protection for that entire geographic area, because, under current regulations, no degradation of air quality is allowed. This stringent protection is already in place and is not contingent upon proving that listed species are being adversely affected by increasing levels of air pollution. In other parts of the lichen's range that are not designated as Class I Air Quality Areas, Federal agencies responsible for ensuring compliance with the Clean Air Act are still required to ensure that their actions (or lack thereof) are not jeopardizing the continued existence of the lichen or any other listed species, regardless of the designation of critical habitat.

#### Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we have sought the expert opinions of at least three appropriate and independent specialists regarding our proposed finding. The purpose of such review is to ensure that listing decisions are based on scientifically sound data, assumptions, and analyses. We sent these peer reviewers copies of the proposed finding immediately

following publication in the **Federal Register**. All the peer reviewers who responded supported our proposal not to designate critical habitat, and we have incorporated their comments into this final finding (many are in the "Summary of Comments" section).

#### References Cited

A complete list of all references cited in this finding is available upon request from the Asheville Field Office (see **ADDRESSES** section).

#### Author

The primary author of this document is Nora Murdock (see **ADDRESSES** section).

Dated: September 27, 2001.

**Marshall P. Jones Jr.,**

*Acting Director, U.S. Fish and Wildlife Service.*

[FR Doc. 01-24660 Filed 10-2-01; 8:45 am]

**BILLING CODE 4310-55-P**

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### Notice of Extension To Prepare a Draft Environmental Impact Statement for the Swanson River Satellites Natural Gas Project, Kenai National Wildlife Refuge, Alaska

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice.

**SUMMARY:** This notice advises the public that the U.S. Fish and Wildlife Service (USFWS) is extending the period to prepare a draft environmental impact statement (DEIS) for the Swanson River Satellites Natural Gas project beyond the nine months prescribed in Title XI of the Alaska National Interest Lands Conservation Act (ANILCA). Preparation of the DEIS will be extended for an additional nine months to allow for the USFWS, cooperating agencies, and the right-of-way applicant to collectively identify and refine the project alternatives that will be evaluated in the DEIS.

**DATES:** A Notice of Availability of the DEIS is scheduled to be published July 19, 2002.

**ADDRESSES:** Comments regarding this notice should be directed to: Regional Director, Region 7, U.S. Fish and Wildlife Service, 1011 E. Tudor Road, Anchorage, Alaska 99503.

**FOR FURTHER INFORMATION CONTACT:** Brian L. Anderson, (907) 786-3379.

**SUPPLEMENTARY INFORMATION:** On January 29, 2001, Union Oil Company of California d.b.a. Unocal filed an

application with the USFWS for a right-of-way permit to construct the Swanson River Satellites Natural Gas project within the Kenai National Wildlife Refuge (KNWR). The application was also filed with the Bureau of Land Management, and the U.S. Army Corps of Engineers, both of which are cooperating agencies for the environmental review. A notice of intent to prepare an environmental impact statement for the project was published in the **Federal Register** on February 27, 2001 (66 FR 12541). Regulations implementing Title XI of ANILCA require that, when necessary, a DEIS be prepared within nine months of the date the application was filed [43 CFR 36.6 (1)]. These regulations also provide for an extension of the nine-month period for a reasonable specific time, if the lead agency determines, for good cause, that the period is insufficient [43 CFR 36.6 (2)].

As lead agency, the USFWS has determined, in consultation with the applicant, that the nine-month period is not sufficient to develop reasonable project alternatives for this large and complex project. An additional nine months will be necessary for the applicant and the cooperating federal agencies to conduct the engineering and environmental studies needed to identify project alternatives that would constitute adequate and feasible access for development of the project while protecting, to the greatest extent practicable, the resources of the KNWR.

This environmental review is being conducted in accordance with the requirements of NEPA (42 U.S.C. 4371 *et seq.*) as implemented by the Council on Environmental Quality regulations at 40 CFR 1500-1508, and the pertinent regulations of USFWS. Upon completion of the Draft EIS, a Notice of Availability will be published in the **Federal Register**.

**Gary Edwards,**

*Acting Regional Director, Region 7, Fish and Wildlife Service.*

[FR Doc. 01-25162 Filed 10-5-01; 8:45 am]

**BILLING CODE 4310-55-P**

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### Hanford Reach National Monument Federal Advisory Committee; Meeting Notice

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice; FACA meeting.