

50 CFR Part 17

RIN 1018-AB52

Endangered and Threatened Wildlife and Plants; Proposal to Determine the Plant *Eutrema penlandii* (Penland alpine fen mustard) To Be a Threatened Species**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

SUMMARY: The Service proposes that *Eutrema penlandii* (Penland alpine fen mustard) be designated a threatened species under the Endangered Species Act of 1973, as amended (Act). There are eight small occurrences, totalling 5,200 plants, over a 40 kilometer (25 mile) length of the Continental Divide in central Colorado. The species is found growing above 3,810 meters (12,500 feet) elevation on small calcareous wetlands with perennially subirrigated peat soils. Most sites are on Federal land (Forest Service and Bureau of Land Management). The species' fragile wetland habitat is threatened by desiccation from ditches and ruts from off-road vehicles and mining activities, as well as groundwater acidification from mine drainage. Some subpopulations not seen since 1980 are

thought to be lost. A determination that *E. penlandii* is threatened would implement the Federal protection and recovery provisions provided by the Act. Comments and materials related to this proposal are solicited.

DATES: Comments from all interested parties must be received by December 14, 1990. Public hearing requests must be received by November 29, 1990.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Colorado State Supervisor, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, 730 Simms Street, Room 290, Golden, Colorado 80401, or to the U.S. Fish and Wildlife Service, Western Colorado Sub-office, 529 25½ Road, Suite B-113, Grand Junction, Colorado 81505-6199.

Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above addresses.

FOR FURTHER INFORMATION CONTACT: Mr. John L. Anderson, Botanist, at the above Grand Junction address (303/243-2778 or FTS 322-0351).

SUPPLEMENTARY INFORMATION:**Background**

The Penland alpine fen mustard was first collected at "Hoosier Pass" in the Mosquito Range in 1935 by C.W.T. Penland, late professor at Colorado College, and recollected in 1949. A description was published a year later by R. Rollins (1950), an expert in the mustard family. The "Hoosier Pass" population, the type locality, is located

at Hoosier Ridge in actuality. It contains approximately half the species' population and is the largest population known.

Eutrema penlandii is a small, herbaceous perennial, 3-8 centimeters (1.2-3.2 inches) tall. It is a shiny green, glabrous (hairless) plant with long-petioled (long-stemmed), heart-shaped basal leaves up to 35 centimeters (14 inches) long and clusters of small, white flowers 2-3.5 millimeters (approximately 0.1 inch) long atop the stems. The generic name refers to the hollow fruits (other mustards have an interior partition called a replum) that are small and rounded, 1.5 millimeter (0.06 inches) wide, and 4-8 millimeters (0.2-0.3 inches) long.

This taxon is closely related to *Eutrema edwardsii*, a circumboreal (inhabiting the northern regions of North America and Eurasia) species in the Arctic that also extends into the mountains of central Asia (Weber and Shashan 1955). Rollins (1962) chose to recognize *E. penlandii* at the species level. Weber (1987) treated this taxon as a subspecies of *E. edwardsii* (*E. edwardsii* ssp. *penlandii*).

For the purposes of this listing action, the Service will recognize this taxon at the species level. If *E. penlandii* is later recognized as a subspecies of *E. edwardsii*, the designation of this taxon as a threatened species will remain valid because section 3(15) of the Endangered Species Act (Act) of 1973, as amended, (16 U.S.C. 1531 et seq.) permits the listing of subspecies.

E. penlandii is highly habitat-specific and requires a combination of several environmental factors in its microenvironment. These factors include moss-covered peat fens with perennial subirrigation and calcareous (basic) substrate derived from limestone or dolomite above 3,510 meters (12,500 feet) in elevation. The peat mats form on small, flat benches in leeward cirques (steep-walled rounded glacial valleys) with persistent snowfields that provide the subirrigation. The conditions for maintaining these persistent snowfields only exist along this east-west trending portion of the Continental Divide. Most portions of the Continental Divide are north-south trending and are exposed to snow-melting winds.

This unique habitat is also significant biogeographically. As noted above, the nearest relative of *E. penlandii* is *E. edwardsii*, an Arctic circumboreal species. All other species of *Eutrema* occur in Asia. *E. penlandii* is thus an extremely disjunct species, separated by more than 1,600 kilometers (1,000 miles) from its nearest relative and the only representative of a primarily Asiatic genus in the lower 48 states. Other rare alpine taxa with Arctic affinities also occur on limestone in the Mosquito Range, either as separate species (e.g., *Sausseria weberi*) or disjunct species (e.g., *Armeria scabra* ssp. *sibirica*, *Braya glabella*, and *Braya humilis*). *E. penlandii* is the rarest of these, however. This biogeographic pattern, wherein a genus is represented by extremely disjunct species in central Asia and interior western North America, is represented, as well, by several other genera in the mustard family, including *Braya*, *Stroganowia*, *Smelowskia*, and *Parrya* (Rollins 1982). The alpine disjunctions have been interpreted as Pleistocene glacial relicts that migrated south from the Arctic along the glacial front and were left stranded in small pockets of habitat with the retreat of the glaciers. Alternatively, *E. penlandii* and others may be Tertiary relicts of a more widespread northern hemisphere flora with a continental (interior) climate, which then migrated northward from the Canadian Rockies into the Arctic onto barren habitats newly opened along the front of the retreating glaciers (Weber 1987).

The second and third largest populations were the next discovered. W.A. Weber from the University of Colorado found these in 1967, south of Hoosier Ridge at Mosquito Pass and the Four Mile Creek cirque (between Mount Sheridan and Mount Sherman). Johnston et al. (1981) mapped out these three known populations at Hoosier Ridge,

Mosquito Pass, and Mt. Sherman in a 1980 status report. The three populations extend over a 40 kilometer (25 mile) range along the Continental Divide, or approximately 19 kilometers (12 miles) in a straight line, and within 4 kilometers (2.5 miles) of the Continental Divide.

Federal action involving *E. penlandii* began with section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Fish and Wildlife Service (Service) published a notice (40 FR 27647) of its acceptance of this report as a petition within the context of section 4(c)(2), now section 4(b)(3)(A), of the Act and of its intention thereby to review the status of those plants. *E. penlandii* was included for review as endangered in the July 1, 1975, petition.

In 1976, the Service proposed the species for endangered status, along with 1,700 other plant species (41 FR 24535), but this proposal was eventually withdrawn in 1979 because a final rule had not been prepared within the time limits required under the 1978 Amendments to the Act. On December 15, 1980 (45 FR 82485), the Service published an updated notice reviewing the native plants being considered for classification as threatened or endangered. *E. penlandii* was included in this notice as a category 2 species. Category 2 consists of taxa for which there is some evidence of vulnerability, but for which there is not enough data to support listing proposals at that time.

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, required the Secretary of the interior to make findings on certain petitions within 1 year of their receipt. Section 2(b)(1) of the Act's amendments of 1982 further required that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. Because the 1975 Smithsonian report was accepted as a petition, all the taxa contained in the notice, including *E. penlandii*, were treated as being newly petitioned on October 13, 1982.

Based on recommendations from Johnston et al. (1981), in November 28, 1983 (48 FR 53665), the Service dropped *E. penlandii* to category 3C, which consists of taxa that are no longer being considered for listing because they are more abundant and/or widespread than previously thought. In a notice published January 24, 1984 (49 FR 2485), the

Service announced a "not warranted" finding on *E. penlandii* due to its reclassification to category 3C. This finding terminated the need for 1-year petition findings on the species. *E. penlandii* remained as a category 3C species in the September 27, 1985, Notice of Review (50 FR 39552). However, if additional information or changes in habitat indicated a significant decline in a taxon's status, it could be reconsidered for inclusion on the candidate list.

In a 1985-1986 reconnaissance survey, Steve O'Kane from the Colorado Natural Areas Program found one new, small population at Pennsylvania Creek consisting of 200 individuals on 0.4 hectares (1 acre). However, he was unable to relocate all of the 1980 occurrences. He also observed threats from ditching associated with renewed gold mining operations that could desiccate the peat fens' hydrologic regime (O'Kane 1988).

The Service funded a new status report through its Section 6 Cooperative Agreement with the Colorado Natural Areas Program in 1988. Only four new populations of 0.4-0.8 hectares (1-2 acres) each were found during the 1988 status survey, all within the previously documented range and representing only about 10 percent of the whole species' population. Total numbers estimated for the Penland alpine fen mustard are eight populations, 5,200 individuals, and 25 hectares (62 acres) (Naumann 1988). Two subpopulations, at London Mountain Saddle below Mosquito Pass and the Dauntless Mine site below Mount Sherman, were not found again. Also, the desiccating effects of ditching from off-road vehicle ruts and mining activities were observed at several of the populations. For these reasons, Naumann (1988) recommended returning *E. penlandii* to the candidate list. On February 21, 1990, it was added to the 1990 Notice of Review (55 FR 6205) as a category 1 candidate species, which is a species for which the Service has substantial information to support a proposal to list as threatened or endangered.

Most Penland alpine fen mustard plants occur on Federal land: Hoosier Ridge (Forest Service); Mosquito Pass, London Mountain Saddle (Bureau of Land Management); as well as portions of other, smaller sites (Forest Service, Bureau of Land Management). Approximately 15 percent of the species' habitat is on private land (Naumann 1988).

Summary of Factors Affecting the Species

Section 4(a) (1) of the Endangered Species Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal Lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a) (1). These factors and their application to *Eutrema penlandii* (Penland alpine fen mustard) are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Because of its high degree of habitat specificity, which requires the combination of several microenvironmental factors as described earlier, the Penland alpine fen mustard only occupies a small area in Colorado estimated at 25 hectares (62 acres) (Naumann 1988). This habitat is rare in Colorado, and most areas in Colorado with high potential as habitat were surveyed in 1988 (Naumann 1988). *E. penlandii* might be found in Wyoming and Montana, but specimens never have been collected outside Colorado. Therefore, few, if any, additional populations will likely be found, and any impacts to its habitat are significant.

Hydrology is the most fragile aspect of the Penland alpine fen mustard's habitat. Perennial subirrigation is required to maintain the peat fens. Ditching, from the ruts of off-road vehicle tracks or mining activity, can cause desiccation of a peat fen supporting Penland alpine fen mustard. The result can be loss of habitat and, consequently, plants. The Mosquito Pass/London Mountain Saddle site, which contains the second largest population, is in a popular recreational area, and active mines are in operation within this cirque of South Mosquito Creek. In addition, survey markers observed in 1988 mark the route of an annual burro race from Mosquito Pass to Alma, Colorado, through the population. The smaller populations at Mt. Sherman, Pennsylvania Mountain, Cooney Lake, and Buckskin Mountain have also been affected by ditching.

Calcareous substrate is another necessary habitat element for the Penland alpine fen mustard. Acid drainage from mine tailings can affect its habitat by lowering pH and changing it from basic to acidic, contributing to loss of plants. Small subpopulations at London Mountain Saddle below Mosquito Pass and the Dauntless Mine below Mt. Sherman that were observed in 1980 could not be found again in 1988

and were presumably lost due to ditching and acid mine drainage, respectively (Naumann 1988).

B. Overutilization for commercial, recreational, scientific, or educational purposes. No detrimental uses of these plants are known.

C. Disease or Predation. No such threats are known. There is evidence of pika and microtine rodent feeding on these plants, but the significance of such herbivory is unknown.

D. The inadequacy of existing regulatory mechanisms. No Federal or State laws protect *E. penlandii*. A Research Natural Area has been proposed for the Hoosier Ridge population on Forest Service land. Final designation is still pending. The Act would provide additional protection and encourage active management through the "Available Conservation Measures" discussed below.

E. Other natural or manmade factors affecting its continued existence. This species' pattern of rarity, with few small populations on small areas of specialized habitat, makes it particularly vulnerable to the threats described above.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Eutrema penlandii* as threatened. This species is a restricted endemic with threats to its fragile wetland habitat. At the present time, there is no acid mine drainage problem at the Hoosier Ridge site, which contains the largest *E. penlandii* population. Existing management at this site should be adequate to maintain the population (Naumann 1988). Nearly all other populations are threatened by acid mine drainage and/or off-road vehicle traffic. At their present level, these threats are not likely to result in species extinction in the foreseeable future. However, with these threats acting on *E. penlandii*'s small populations and limited range, this species could become endangered within the foreseeable future throughout all or a significant portion of its range; thus, *E. penlandii* is a threatened species as defined by the Act. For reasons given below, it is not considered prudent to propose designation of critical habitat.

Critical Habitat

Section 4(a) (3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species is proposed to be listed as endangered or threatened. The

Service finds that designation of critical habitat is not prudent for *E. penlandii* for the following reasons:

First, it may be inadvisable to designate critical habitat because the publication of detailed critical maps would expose this little-known species to the threat of deliberate taking and vandalism, when no such threat existed before.

Second, it is unlikely that designation of critical habitat will provide any benefits to the species beyond those achieved by species listing. Most plants occur on lands under Federal jurisdiction. In fact, the two largest populations (Hoosier Ridge: 2,000+ plants; Mosquito Pass/London Mountain Saddle: 1,550+ plants) occur on Federal land. Listed species on lands managed by a Federal agency are protected under section 7(a) (2) of the Act, which requires that the Federal agency insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of the species. Per 50 CFR 17.61 and 17.71, it is also unlawful to remove and reduce to possession any listed plant from an area under Federal jurisdiction. Hence, there will be protective safeguards for plants on Federal lands following listing. Moreover, if the Forest Service designates the area containing the Hoosier Ridge population as a Research Natural Area, this is expected to provide additional protection, if only through notification.

All involved parties and landowners (public and private) have been or will be notified of the location and importance of protecting this species' habitat. Protection will be addressed through the consultation and recovery processes.

Consequently, it would not be prudent to determine critical habitat for *E. penlandii*.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to proposed or listed species and with respect to critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a) (4) requires Federal agencies to confer informally with the Service on any action likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, Section 7(a) (2) requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

E. penlandii occurs primarily on Federal land administered by the Forest Service and Bureau of Land Management. Their involvement could include section 7 consultation on mining activities and land exchanges. A recreation plan is needed to manage off-road vehicle use. On both Federal and private land, the Service expects that listing would elevate the awareness of this plant's status and foster efforts aimed toward its conservation.

The Act and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general trade prohibitions and exceptions that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. Seeds from cultivated specimens are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provides for the issuance of permits to carry out otherwise prohibited activities involving

threatened species under certain circumstances. With regard to *E. penlandii*, it is anticipated that few, if any, trade permits would ever be sought or issued since this species is not common in cultivation or in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, Room 432, 4401 N. Fairfax Drive, Arlington, Virginia 22203 (703/358-2093, FTS 921-2093).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any interested party concerning this proposal are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *E. penlandii*;
- (2) The location of any additional populations of *E. penlandii* and reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;
- (3) Additional information concerning the range, distribution, and population size of *E. penlandii*; and
- (4) Current or planned activities in the subject area and their possible impacts on *E. penlandii*.

Final promulgation of the regulation on *E. penlandii* will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Colorado State Supervisor, U.S. Fish and Wildlife Service, Golden, Colorado (see ADDRESSES above).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the

Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

References Cited

- Johnston, B.C., J.S. Peterson and W. Harmon. 1981. Status report *Eutrema penlandii* Rollins. Unpublished report on file with the Colorado Natural Areas Program, Denver, Colorado. 24 pp.
- Naumann, T. 1988. Status report for *Eutrema penlandii*. Colorado Natural Areas Program. 33 pp, plus three appendices.
- O'Kane, S. 1988. Colorado's rare flora. Great Basin Naturalist 48:434-484.
- Rollins, R.C. 1950. Studies on some North American Cruciferae. Contrib. Gray Herbarium 171:42-53.
- Rollins, R.C. 1982. A new species of the Asiatic genus *Stroganowia* (Cruciferae) from North America and its biogeographic implications. Systematic Botany 7(2): 214-220.
- Weber, W.A., and S. Shushan. 1955. Additions to the flora of Colorado—II. University of Colorado Studies, Series in Biology 3:85-108.
- Weber, W.A. 1987. Colorado flora: western slope. Colorado Associated University Press, Boulder, Colorado. 530 pp.

Author

The primary author of this proposed rule is John L. Anderson, Botanist, U.S. Fish and Wildlife Service, Grand Junction, Colorado (303/243-2778, FTS 322-0351; see ADDRESSES above).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record-keeping requirements, and Transportation

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding the following, in alphabetical order, under the family Brassicaceae to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

SPECIES		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Brassicaceae—Mustard family:						
<i>Eutrema penlandii</i>	Penland alpine fen mustard.....	U.S.A. (CO).....	T	NA	NA

Dated: September 25, 1990.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

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