

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Final Rule to Determine *Glaucocarpum suffrutescens* (Toad-flax Cress) to be an Endangered Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines a plant, *Glaucocarpum suffrutescens* (toad-flax cress), to be an endangered species under the authority of the Endangered Species Act of 1973, as amended. It is endemic in the Uinta Basin of northeastern Utah on shale barrens of the Green River Formation, in or adjacent to the Hill Creek drainage in southern Uintah County, and at the base of the Badland Cliffs in adjacent Duchesne County. The nine known populations of the species total about 3,000 individuals and have experienced a range and population decline since its discovery 50 years ago. The reasons for the decline are not fully understood, and may be due to habitat alteration, possibly from building stone removal, localized historic overgrazing and oil and gas development. Oil, gas, and oil shale development could significantly jeopardize the species in the future. This rule implements protection provided by the Endangered Species Act of 1973, as amended. A proposal to designate critical habitat for this species is withdrawn.

DATE: The effective date of this rule is November 5, 1987.

ADDRESSES: The complete file for this rule is available for public inspection, by appointment, during normal business hours at the Service's Regional Office, 134 Union Boulevard, 4th floor, Lakewood, Colorado; or Salt Lake City Field Office, Room 2078 Administration Building, 1745 West 1700 South, Salt Lake City, Utah 84104.

FOR FURTHER INFORMATION CONTACT: Mr. John L. England, Botanist, at the Salt Lake City address above. (801/524-4430 or FTS 588-4430).

SUPPLEMENTARY INFORMATION:

Background

Glaucocarpum suffrutescens was first discovered in 1935 by Edward Graham and described by Reed Rollins as *Thelypodium suffrutescens* (Graham 1937). Following further research, Dr. Rollins erected the monotypic genus *Glaucocarpum* for this species (Rollins

1938). The species has also been treated in the genus *Schoenocrambe* (Welsh and Chatterley 1985). The toad-flax cress is a member of the mustard family (Brassicaceae); it is a perennial herb from a deep woody root and forms a clump of several slender simple stems, with elongated loose inflorescence and yellow flowers.

Glaucocarpum suffrutescens is one of several endemics limited to the Green River Formation in the Uinta Basin of eastern Utah. It survives with a few other species primarily on one calcareous shale stratum strongly resistant to erosion. The habitat of this plant is disjunct knolls and benches resembling small extremely dry desert islands surrounded by sagebrush or pinyon-juniper woodland. *Cryptantha barnebyi* (Barneby cat's-eye), another candidate plant under review for threatened or endangered status (50 FR 39526), occurs, at least in part, in the habitat of *Glaucocarpum*.

Glaucocarpum occurs in two main population groups near each other in Uintah County. One group is centered in the Gray Knolls between the Green River and Hill Creek, with 800-1,000 plants in 3 populations. The other group is centered on Little Pack Mountain and along the flanks of Big Pack Mountain between Hill Creek and Willow Creek, with about 2,000 individuals in 5 populations. A small third population center, about 20 miles to the west in Duchesne County, has 107 known plants. The individual populations range in size from 3 to perhaps 1,000 plants. Most of the populations occur on Federal land under the jurisdiction of the Bureau of Land Management (BLM) and the Department of Energy (DOE) and on Indian land under the jurisdiction of the Bureau of Indian Affairs (BIA) and the Ute Indian tribe.

From 1977 to 1986, field work was undertaken on this species by Karl Wright, Larry England, Kathy Mutz, Elizabeth Neese, Scott Peterson, and John and Leila Shultz. This work documented range, specific occurrences, approximate number of individuals, and recommended areas of critical habitat for *Glaucocarpum* (Shultz and Mutz 1979, England 1982).

The toad-flax cress habitat is underlain by oil shale deposits. Building stone collecting may have significantly altered the habitat of the species and decreased its range and population. Historic heavy grazing may also have had an impact on some of the species' populations. Oil shale and oil and gas development without adequate provision for the species could destroy it in the future.

Section 12 of the Endangered Species Act of 1973 (Act) 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 Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of the report as a petition to list the taxa named therein under section 4(c)(2) of the 1973 Act (petition acceptance is now governed by section 4(b)(3) of the Act), and of its intention to review the status of those plants. *Glaucocarpum suffrutescens* was included in the July 1, 1975, notice and was proposed by the Service for listing as endangered along with some 1,700 other vascular plant taxa on June 16, 1976 (41 FR 24523). General comments received in relation to the 1976 proposal are summarized in an April 26, 1978, **Federal Register** publication (43 FR 17909).

The Endangered Species Act amendments of 1978 required that all proposals over 2 years old be withdrawn; proposals already over 2 years old were subject to a 1-year grace period. On December 10, 1979, the Service published a notice of withdrawal of that portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired (44 FR 70796). The July 1975, notice was replaced on December 15, 1980, by the Service's publication in the **Federal Register** (45 FR 82480) of a new notice of review for plants, which included *Glaucocarpum suffrutescens* as a category 1 species. Category 1 comprises taxa for which the Service presently has significant biological information to support their being proposed to be listed as endangered or threatened species.

The Endangered Species Act amendments of 1982 required that all petitions pending as of October 13, 1982, be treated as having been newly submitted on that date. The deadline for a finding on such petitions, including that for *Glaucocarpum suffrutescens*, was October 13, 1983. On October 13, 1983, and again on October 12, 1984, a petition finding was made that listing this species was warranted but precluded by other listing actions, in accordance with section 4(b)(3)(B)(iii) of the Act. The Service published a proposed rule to list *Glaucocarpum suffrutescens* as an endangered species on September 5, 1985, constituting the next 1-year finding that would have been required on or before October 13, 1985.

Summary of Comments and Recommendations

In the September 5, 1985, proposed rule (50 FR 36118) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. The Service extended the initial comment period on November 4, 1985 (50 FR 45846), to accommodate a requested public hearing. In addition, the Service reopened the comment period on December 11, 1985 (50 FR 50646), at the request of a private landowner whose property had been proposed as critical habitat. The reopening of the comment period was needed to provide additional time for the private landowner and others to formulate recommendations concerning the listing of the species and its critical habitat designation. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices were published in the *Vernal Express*, *The Uintah Basin Standard*, *The Deseret News*, and *The Salt Lake Tribune* during the period of September 27 to October 23, 1985. Fifteen written comments were received and are discussed below. A public hearing was held on November 21, 1985, in Vernal, Utah. Thirteen verbal comments were received at that hearing. The public hearing is summarized with the written comments below.

Four comments, one from the BLM, one from the Utah State University Cooperative Extension Service (USU Extension Service), one from the Uinta Basin Association of Governments, and one from the agent of the private landowner whose property had been proposed as critical habitat, stated that the Service has not proven that grazing and building stone removal have caused the decline in the range and abundance of *Glaucocarpum suffrutescens*.

The Service believes that the causes of the decline of the range and abundance of the *Glaucocarpum* are not understood and probably are a complex interaction of various factors affecting the species' habitat and populations. Observations by E.H. Graham and R.C. Rollins indicate that the population of *Glaucocarpum* along the east flank of Big Pack Mountain was essentially continuous on a narrow band about 20 feet wide on one stratum of highly calcareous soil for the entire distance of their initial survey (over 3 miles). Extrapolating from the densities observed by Graham and Rollins and corroborated with recent observations

by Shultz and Mutz (1979) and England (1982), it appears that the population along the east flank of Big Pack Mountain harbored in excess of 3,000 individuals in 1935. This population now comprises fewer than 1,000 individuals. Currently, in habitat similar to the east Big Pack Mountain habitat, the west flank of Big Pack Mountain supports a *Glaucocarpum* population of fewer than 200 individuals. Populations at Little Pack Mountain and in the Gray Knolls total no more than 1,600 plants between them. The Service, in an effort to determine what factors may have caused such a population decline, looked for human-induced changes in the habitat of *Glaucocarpum* since the first observation of the species 50 years ago. Heavy grazing and removal of the surface stone peculiar to the calcareous outcrops to which *Glaucocarpum* is endemic occurred concurrently with the decline of the species. While neither of these factors may have been solely responsible for the species' decline, there is a distinct possibility of their effect having led to the current endangered status of *Glaucocarpum*.

Three comments, one from the BLM, one from the USU Extension Service and one from the private landowner stated that listing of *Glaucocarpum suffrutescens* should be deferred until the reasons causing the decline of the species are known.

Service data indicate that the decline of the population and range of *Glaucocarpum suffrutescens* in absolute terms is well established as described above. Given the rarity of *Glaucocarpum suffrutescens*, its consequent vulnerability to even trivial disturbance of its habitat, and the potential for that habitat disturbance, the Fish and Wildlife Service believes it is appropriate to protect *Glaucocarpum suffrutescens* under the Endangered Species Act despite uncertainty as to the reasons for its decline.

Two comments, one from the BLM and one from the private landowner, stated that oil and gas and oil shale development are not likely to be threats to *Glaucocarpum suffrutescens* under current energy market conditions. The Service acknowledges that apparent fact. The future development of oil and gas and oil shale energy resources on the habitat of *Glaucocarpum suffrutescens*, however, does remain a potential threat to the species and its habitat. Recently portions of two populations of *Glaucocarpum* have been lost directly to energy development activity. Private land on which the species occurs was patented from the public domain to private ownership

because of its oil shale value; other land supporting the species was set aside as a portion of the DOE's Naval Oil Shale Reserve No. II; and the entire area of the population under Federal jurisdiction is under executive withdrawal for mineral entry because of its oil shale value (Executive Order 5327). The Service continues to believe that some potential for oil, gas, and shale development exists and that this potential is properly considered as a contributing basis for listing the species.

The BLM commented that *Glaucocarpum suffrutescens* is receiving consideration as a sensitive plant species in the BLM's environmental planning documents (BLM 1984) and that the BLM will protect it under its land management authority as long as the species is under review by the Service for official status under the Endangered Species Act. The Service acknowledges the conservation measures the BLM has extended the *Glaucocarpum* and other rare and sensitive species within the Vernal BLM District.

Six written comments and eight oral comments from the public hearing—one from the private landowner, three from regional economic development agencies, eight from private individuals, one from a county commissioner, and one from a livestock production group—stated that listing *Glaucocarpum suffrutescens* would adversely affect economic development of energy resources in Duchesne and Uintah Counties, Utah. The Service expects that from time to time *Glaucocarpum suffrutescens* may be the subject of interagency consultations regarding such development. The Service is confident that the species can be conserved and that energy development with proper safeguards for the species may also take place. The Act, through the section 7 interagency consultation provision is designed to address and resolve such conflicts between listed threatened and endangered species and actions that may adversely affect them.

Two comments—one written and one oral—stated that *Glaucocarpum suffrutescens* is a weed common in Utah. The Service disagrees; the species' localized area is in the southern Uinta Basin in Utah, and based on best current knowledge it is found nowhere else in the world.

Four written comments—two from conservation organizations, one from a professional botanist, and one from a private citizen—supported the proposal of endangered status and stated that *Glaucocarpum suffrutescens* is a very rare, narrowly distributed species that is highly vulnerable to habitat disturbance.

Three comments—one from the State of Utah, one from a conservation organization and one from a private citizen—were in general agreement with the Service's position in the proposed rule.

Additional comments relating solely to the proposed designation of critical habitat are noted below in the Critical Habitat section of this rule.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Glaucocarpum suffrutescens* (toad-flax cress) should be classified as an endangered species. Procedures found in section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or a threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Glaucocarpum suffrutescens* (Rollins) Rollins (toad-flax cress) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Over the 50 years since its original discovery, there has been a decline in the population and range of this species. During repeated fieldwork at the type locality, the most recent by Karl Wright and Larry England in 1987, no individuals have been found (England 1982; Rollins, Harvard University, pers. comm., 1983, 1986). A population between the type locality and the Little Pack Mountain population has been found (BLM, pers. comm., 1987). Removal of building stone and localized heavy grazing in a portion of the species' range are possible factors that may have contributed to the extirpation of this population (England 1982). Current livestock grazing, as now managed by the BLM in the habitat area of *Glaucocarpum suffrutescens*, is not expected to adversely affect the species. Any grazing threat would be a consequence of localized uncontrolled use by insects, rodents, rabbits, and wild horses.

The entire range of this monotypic genus is underlain by oil shale, which may be mined when economic conditions favor it, and by conventional oil and gas deposits that have begun to be developed. The largest population is partly on Naval Oil Shale Reserve No. II of the DOE, and partly on the Uintah and Ouray Indian Reservation, which is held in trust by the U.S. Department of the Interior for the Ute Indian tribe. The

other four populations with 70 or more plants are partly under BLM, private, State, or Indian tribal management, while the three smallest populations are solely managed by one of the above entities. Portions of the species habitat are also now under lease by an oil shale development company. Without a concerted effort and coordinated planning to provide for its conservation during any energy development that may take place, this monotypic genus could inadvertently be brought to extinction (England 1982).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* None known.

C. *Disease or predation.* Sheep and cattle grazing may have had an impact on this species historically, but, with current levels of grazing management by BLM, domestic livestock are not expected to further impact the species. Grazing by wildlife, particularly rabbits and wild horses, may adversely affect some populations of this species.

D. *The inadequacy of existing regulatory mechanisms.* There are no Federal, State, or local laws or regulations that address this species specifically or directly provide for protection of its habitat. The BLM is aware of this plant and has considered it in its environmental planning of the resource area on which it occurs (BLM 1984). No Federal agencies are under current legal obligation for the conservation of *Glaucocarpum*. The Act offers possibilities for additional protection of this species through section 7 (interagency cooperation) and section 9 (prohibiting removal and reduction to possession of a listed plant from an area under Federal jurisdiction).

E. *Other natural or manmade factors affecting its continued existence.* The estimated total number of individuals of toad-flax cress that currently exist is fewer than 3,000. Only 5 of the 9 populations consist of 170 individuals or more, and 3 consist of fewer than 30 plants each. Only the largest populations may have sufficient genetic variability to provide for long-term adaptation to natural changes in environmental conditions.

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 make this rule final. Based on this evaluation, the preferred action is to list *Glaucocarpum suffrutescens* as endangered. With fewer than 3,000 individuals known in nine populations and the risk of damage to the toad-flax cress and its habitat, endangered status seems an accurate assessment of the plant's condition. For

reasons explained below, the proposal to designate critical habitat for this species is withdrawn.

Critical Habitat

Critical habitat, as defined by section 3 of the Act, means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat was proposed to be designated for *Glaucocarpum suffrutescens*. However, the Service no longer believes such designation would be prudent. The area originally proposed as critical habitat was quite large (over 7,000 acres) in relation to the number of individual plants known. Several comments noted this fact and recommended that the extent of critical habitat be reduced or that critical habitat not be designated. While the Service could designate inclusive boundaries for critical habitat that would encompass several scattered small populations or individuals of the species, it no longer finds that the entire area proposed can be supported as critical habitat. At the same time, designating more narrowly focused areas surrounding individual local populations of the species could expose these populations to a significant risk of vandalism. The proposed designation is therefore withdrawn because no benefit to this species has been identified that would be provided by the designation and that would overbalance the inherent risk of precisely identifying its location. Careful coordination with the other involved Federal agencies will be no less feasible in the absence of designated critical habitat, and will be equally effective in the conservation of the species.

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. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its 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)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. The Bureau of Land Management, the Department of Energy, and the Bureau of Indian Affairs have jurisdiction over portions of the habitat of the toad-flax cress. If resident and transient human populations in the Uintah Basin increase as a consequence of energy development, these agencies may find it necessary, in order to comply with section 7, to increase regulation of activities that could have detrimental effects on the species.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act,

implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export any endangered plant, transport it in interstate or foreign commerce in the course of a commercial activity, sell or offer it for sale in interstate or foreign commerce, or to remove it and reduce it to possession from areas under Federal jurisdiction. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. No trade in *Glaucocarpum suffrutescens* is known. It is anticipated that few trade permits would ever be sought or issued, since this species is not common in the wild or in cultivation and is of no known commercial interest. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, DC 20240 (703/235-1903).

National Environmental Policy Act

The Fish and Wild Service has determined that an Environmental Assessment, as defined by 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

Bureau of Land Management. 1983. Environmental Impact Statement. Uinta Basin Synfuels Development, Vernal, Utah. 2 Vols., 1,019 pp.
 Bureau of Land Management. 1984. Environmental Impact Statement. Book Cliffs Resource Management Plan, Vernal, Utah. 519 pp.

England, J.L. 1982. Status report on *Glaucocarpum suffrutescens* (Rollins) Rollins. Office of Endangered Species, U.S. Fish and Wildlife Service, Region 6, Denver, Colorado. 39 pp.
 Graham, E.H. 1937. Botanical studies in the Uinta Basin of Utah and Colorado. Annals of the Carnegie Museum 26:1-432.
 Rollins, R.C. 1938. *Glaucocarpum*, a new genus in the Cruciferae. Madrono 4:232-235.
 Shultz, L.M. and K.M. Mutz. 1979. Threatened and Endangered Plants of the Willow Creek Drainage. Vernal District, Bureau of Land Management, Vernal, Utah. 74 pp.
 Welsh, S.L. and L.M. Chatterley. 1985. Utah's rare plants revisited. Great Basin Naturalist 45:173-230.

Authors

The primary author of this rule is John L. England of the Service's Salt Lake City Field Office (801/524-4430 or FTS 588-4430). Dr. James L. Miller of the Service's Denver Office served as editor.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

PART 17—[AMENDED]

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

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. 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>Glaucocarpum suffrutescens</i>	Toad-flax cress	U.S.A. (UT)	E	283	NA	NA

Dated: September 18, 1987.

John W. Woody

Susan Recca,

Acting Assistant Secretary for Fish and
Wildlife and Parks.

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