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**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**Endangered and Threatened Wildlife and Plants; Proposal To Determine *Lesquerella congesta* and *Physaria obcordata* To Be Threatened Species**

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

**ACTION:** Proposed rule.

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**SUMMARY:** The Service proposes to determine two plants, *Lesquerella congesta* (Dudley Bluffs bladderpod) and *Physaria obcordata* (Dudley Bluffs twinpod), both members of the mustard family from Rio Blanco County, Colorado, to be threatened species under the Endangered Species Act of 1973, as amended (Act). Both species grow on oil shale outcrops that are primarily over a range of approximately 15 miles along two adjacent drainages, Piceance and Yellow Creeks, in Piceance Basin. The twinpod also occurs on two localities on Calamity Ridge 12 miles to the west of these two drainages. They are known from five populations each, two of which occur together. Most of these sites are on public land administered by the Bureau of Land

Management, with portions of three twinpod sites along Piceance Creek and Calamity Ridge on private and one one-bladderpod site along Yellow Creek on Colorado Division of Wildlife land. No Federal or State laws protect the two species on these sites. Within the oil shale rich Piceance Basin, the Dudley Bluffs bladderpod and twinpod occur in the multimineral oil shale zone, an area containing rich deposits of oil shale in the mahogany zone and sodium minerals, nahcolite (sodium bicarbonate) and dawsonite (a potential source of alumina) in the saline zone. If project designs for development of these deposits do not include planning for conservation of these two mustards, which only occur here, both species could be significantly impacted. This proposal, if made final, would implement Federal protection provided by the Act for *Lesquerella congesta* and *Physaria obcordata*. The Service seeks data and comments from the public on this proposal.

**DATES:** Comments from all interested parties must be received by March 27, 1989. Public hearing requests must be received by March 10, 1989.

**ADDRESSES:** Comments and materials concerning this proposal should be sent to the State Supervisor, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, 529-25 1/2 Road, Suite B113, Grand Junction Colorado 81505. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

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

**SUPPLEMENTARY INFORMATION:**

**Background**

Two new species of wild mustards, *Lesquerella congesta* (Dudley Bluffs bladderpod) and *Physaria obcordata* (Dudley Bluffs twinpod), were discovered in 1982 during a floristic inventory of the Piceance Basin conducted by the Colorado Natural Heritage Inventory for the Bureau of Land Management (Bureau; The Nature Conservancy 1982, Colorado Natural Areas Program 1987). They were subsequently described by Dr. Reed Rollins, an expert on the mustard family, who visited Piceance Basin and observed them at Dudley Bluffs in 1983 (Rollins 1983, Rollins 1984). These two herbaceous perennials are the rarest of several oil shale plant species in the Piceance Basin.

*L. congesta* is an extremely small cushion plan only 1-3 centimeters (0.4-

1.2 inches) in diameter with fruiting stems up to 1.5 centimeters (0.6 inches) tall. The cushion growth habit is an adaptation to erosive badland soils which has independently evolved in several unrelated taxa in this area. It has small linear, entire, silvery leaves 8-13 millimeters (0.3-0.5 inches) long; bright yellow flowers; and rounded, pubescent fruits, 2.5-3.5 millimeters (0.10-0.14 inches) wide. *P. obcordata* is 12-18 centimeters (4.8-7.2 inches) tall with oblanceolate, entire leaves 1.0-1.5 centimeters (0.4-0.6 inches) wide and 4.0-8.0 centimeters (1.6-3.8 inches) long, with a silvery sheen due to a dense covering of overlapping, dish-shaped trichomes. It has yellow flowers, 7-9 millimeters (0.3-0.4 inches) long, and slightly inflated, heart-shaped (obcordata) fruits.

These two rare mustards grow on steep, barren outcrops derived from a mixture of calcareous sandstone and shale strata which are exposed along drainages through erosion from downcutting of streams in the Piceance Basin. The surrounding hills and mesas which support pinyon-juniper woodlands also contain scattered outcrops of habitat that support *L. congesta*. These strata are derived from the Eocene Green River and Unita Formations (Cashion and Donnell 1974). The rich oil shale bearing Green River Formation formed as a lacustrine deposit in Lake Uinta, forming fine textured shale. Later, Lake Uinta filled with sand and silt deposits which are the coarser grained Uinta Formation. At the interface of these two formations, the lakebed Green River Formation shale intertongues with the deltaic and fluvial sandstones and siltstones of the Uinta Formation. For instance, at the type locality of the two species, the hillside with the bladderpod and twinpod is formed by strata of the Uinta Formation on the top and the base with the Thirteen Mile Creek Tongue of the Green River Formation on the slope (where most of the mustards grow at this site). Along Yellow Creek, the Dudley Bluffs bladderpod and twinpod grow primarily on outcrops of the Uinta Formation, whereas at Calamity Ridge the twinpod grows on outcrops of the Parachute Creek Member of the Green River Formation. Elevational ranges for these species are 1860-2010 meters (6140-6644 feet) for *L. congesta* and 1806-2255 meters (5960-7440 feet) for *P. obcordata*.

In 1986 the Colorado National Areas Program conducted field work on *P. obcordata* to determine its rarity and range (Colorado Natural Areas Program 1987). Sites of *L. congesta* were delineated at the same time. During this

survey, populations of both species were found for the first time along Yellow Creek, the next drainage west of Piceance Creek and about 5 miles away. The largest known populations of both species, approximately 10,000 individuals each, were discovered growing together at the junction of Piceance Creek and Ryan Gulch, 2 miles north of Dudley Bluffs. Also mapped were the previously discovered sites of *P. obcordata* at Calamity Ridge, the western boundary of the Piceance Basin and approximately 15 miles west of Piceance Creek. These sites differ from those along Piceance and Yellow Creeks by occurring along ridges at the heads of two drainages and on a different stratum. No *L. congesta* was found at Calamity Ridge. All major drainages in the Piceance Basin were surveyed, and these two species were found only along Piceance and Yellow Creeks and the twinpod at Calamity Ridge.

*L. congesta* has five populations on approximately 50 total acres over a range of 10 miles. *P. obcordata*, which occurs on outcrops farther upstream on Piceance Creek and downstream on Yellow Creek, has a range of 15 miles, plus the two populations on Calamity Ridge, with a total of five populations on approximately 250 acres. However, the Dudley Bluffs and Ryan Gulch sites, which are only 2 miles apart, contain a majority of both species.

The Dudley Bluffs bladderpod and twinpod occur mostly on land administered by the Bureau, with the exception of portions of the Dudley Bluffs site on private land and a portion of the Yellow Creek sites on Colorado Division of Wildlife land. The Bureau has designated the Federal portions of the Dudley Bluffs site and one of the Calamity Ridge sites as Areas of Critical Environmental Concern (Bureau of Land Management 1987a).

*L. congesta* and *P. obcordata* grow either on outcrops of the oil shale bearing Green River Formation or the overlying Uinta Formation, which is considered overburden to the oil shale. Except for the Calamity Ridge sites, all the occurrences are within the multimineral oil shale area. This area at the center of the Piceance Basin contains thick, rich sections of oil shale in the mahogany zone (and thick overburden of the Uinta Formation) and also, in the underlying saline zone, the sodium minerals nahcolite (sodium bicarbonate) and dawsonite (a potential source of alumina). *L. congesta* and *P. obcordata* are vulnerable to impacts resulting from the development and extraction of these oil shale minerals and associated activities.

Federal action involving these species began on September 27, 1985, when the Service published a notice of review in the *Federal Register* (45 FR 39526) covering plants being considered for classification as endangered or threatened. *L. congesta* and *P. obcordata* were included in this notice as category 2 species. Unfortunately, *L. congesta* was erroneously listed as *L. condensata*, a common species. Category 2 comprises taxa for which information now in possession of the Service indicates that proposing to list them as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threats are not currently known or on file. The present proposal is based on more current biological data from the Colorado Natural Areas Program (1987).

Section 4(b)(3)(B) of the Endangered Species Act (Act), as amended in 1982, requires the Secretary of the Interior to make findings on certain petitions within 1 year of their receipt. All taxa contained in the 1985 notice, including *L. congesta* and *P. obcordata*, were treated as being petitioned on October 11, 1985. In October 1986, October 1987, and October 1988, the Service made the 12-month finding that the petition to list *L. congesta* and *P. obcordata* was warranted, but precluded by other listing actions of higher priority. The present proposal constitutes the final 1-year finding requirement of section 4(b)(3)(B) of the Act for this species.

#### Summary of Factors Affecting the Species

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 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 *Lesquerella congesta* Rollins (Dudley Bluffs bladderpod) and *Physaria obcordata* Rollins (Dudley Bluffs twinpod) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Portions of the multiminerall oil shale area, including Dudley Bluffs, Ryan Gulch, and Yellow Creek, overlay oil shale deposits that are potentially recoverable by open-pit mining (Bureau of Land Management 1984). The rest of the area is suitable for underground mining of oil shale. A pilot project for a nahcolite solution mine has been constructed on Bar D Mesa

between Piceance Creek, Yellow Creek, and Ryan Gulch, and a 120,000 tons per year commercial mine, including evaporation ponds and a pipeline, has been proposed which would cover 254 acres (Bureau of Land Management 1986; Bureau of Land Management 1987b). Currently, the Bureau is reserving the multiminerall area from commercial leasing until improved multiminerall recovery technology is developed. However, leases for noncommercial research tracts not exceeding 2,000 acres will still be considered (Bureau of Land Management 1986; Bureau of Land Management 1987a). Because of the massive scale of potential development in the limited area in which *L. congesta* and *P. obcordata* occur, a significant portion of the habitat of these two wild mustards would be destroyed and/or modified and their range possibly curtailed if development occurs. Up to 100 and 72 percent of the acreages on which *L. congesta* and *P. obcordata* occur, respectively, could be developed. There is already a designated linear utility corridor for pipelines, transmission lines, and roads along Ryan Gulch (Bureau of Land Management 1987a), and potential corridors exist along Dudley Gulch, Piceance Creek, and Yellow Creek (Bureau of Land Management 1984). One of the Calamity Ridge sites has been bisected by a road (Colorado Natural Areas Program 1987).

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

C. *Disease or predation.* No threats are known.

D. *The inadequacy of existing regulatory mechanisms.* There are no Federal or State laws protecting *L. congesta* and *P. obcordata* on Federal, State, or private lands. The Bureau's designation of one area each at Dudley Bluffs and Calamity Ridge as Areas of Critical Environmental Concern provides for priority management of *L. congesta* and *P. obcordata* at these sites. However, these areas only protect about 20 percent of the already limited habitat (about 50 acres for *L. congesta* and 250 acres for *P. obcordata* for these two species. 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.* These species' pattern of rarity, being locally abundant on small areas of specialized habitat, makes them particularly

vulnerable to surface disturbances despite their high densities.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Lesquerella congesta* and *Physaria obcordata* as threatened. These species are restricted endemics with threats from oil shale development which could cause the two species to become endangered within the foreseeable future throughout all or a significant portion of their range; thus they are threatened species as defined by the Act. The Bureau has designated two of the areas as Areas of Critical Environmental Concern, which will provide for priority management, but neither species is currently protected by any State or Federal legislation. 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 designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The designation of critical habitat is not considered to be prudent when such designation would not be of net benefit to the species. The Service finds that designation of critical habitat is not prudent for these species at this time because no additional benefits would be provided by the critical habitat designation that would not already be provided by listing under 50 CFR 424.12. Any impacts to the plants' habitat also would affect the plants as rooted organisms and, consequently, would be addressed through consultation under section 7 of the Act as a result of their listing. Protection of these species' habitat also will be addressed through the recovery process. The Bureau is aware of the occurrences on their land and of its obligation under section 7 of the Act. The designation of critical habitat for these species would not increase the Bureau's obligation under the Act.

#### 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)(4) requires Federal agencies to confer informally with the Service on any action that is 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 ensure 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 adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

*L. congesta* and *P. obcordata* occur primarily on Federal land administered by the Bureau. The Bureau's involvement could include Section 7 consultation on multiminerall development and land exchanges with energy companies to bring the privately owned sites into Federal ownership and protection (since listed plants are not protected on private land). On both Federal and private land, the Service expects that listing would elevate the awareness of these plants' status and foster efforts aimed toward their 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 can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances. With regard to *L. congesta* and *P. obcordata*, it is anticipated that few, if any, trade permits would ever be sought or issued since these species are 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, P.O. Box 27329, Washington, DC 20038-7329 (202/343-4955).

#### Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of 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 *Lesquerella congesta* and *Physaria obcordata*;
- (2) The location of any additional populations of these species and the 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 and distribution of these species; and
- (4) Current or planned activities in the subject area and their possible impacts on these species.

Final promulgation of the regulation on *Lesquerella congesta* and *Physaria obcordata* will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of 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 filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the State Supervisor, Fish

and Wildlife Enhancement, Grand Junction, 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

- Bureau of Land Management. 1984. Draft Piceance Basin resource management plan/environmental impact statement. U.S. Government Printing Office, Washington, DC 270p.
- Bureau of Land Management. 1986. Draft environmental impact statement. Wolf Ridge Corporation mine plan for a nahcolite solution mine. Meeker, Colorado. 149p.
- Bureau of Land Management. 1987a. Piceance Basin resource management plan record of decision. U.S. Government Printing Office, Washington, DC 57p.
- Bureau of Land Management. 1987b. Final environmental impact statement. Wolf Ridge Corporation mine plan for a nahcolite solution mine. Meeker, Colorado. 97p.
- Cashion, W.B. and J.R. Donnell. 1974. Revision of nomenclature of the upper part of the Green River Formation, Piceance Creek Basin, Colorado, and Eastern Uinta Basin, Utah. U.S. Geological Survey Bulletin 1394-C. 9p.
- Colorado Natural Areas Program. 1987. Status report for *Physaria obcordata*. Denver, Colorado. 53p.
- Rollins, R.C. 1983. Studies in the Cruciferae of western North America. Journal of the Arnold Arboretum 64:494-496.
- Rollins, R.C. 1984. Studies in the Cruciferae of western North America II. Contributions from the Gray Herbarium 214:7-9.
- The Nature Conservancy. 1982. Inventory of the Piceance Basin, Colorado: threatened and endangered plants, plant associations, and the general flora. 5 Volumes. Colorado Natural Heritage Inventory. Bureau of Land Management Contract No. YA-553-CTI-116. Denver, Colorado.

#### 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 wildlife, Fish, Marine mammals, Plants (agriculture).

**Proposed Regulation Promulgation**

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:

**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.*); Pub. L. 99-625, 100 Stat. 3500 (1986), 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—scientific name—common name	Historic range	Status	When listed	Critical habitat	Special rules
Brassicaceae—Mustard family:					
<i>Lesquerella congesta</i> —Dudley Bluffs bladderpod.....	U.S.A. (CO)	T	.....	NA	NA
<i>Physana obcordata</i> —Dudley Bluffs twinpod.....	U.S.A. (CO)	T	.....	NA	NA

Dated: December 22, 1988.  
 Becky Norton Dunlop,  
 Assistant Secretary for Fish and Wildlife and  
 Parks.  
 [FR Doc. 89-1487 Filed 1-23-89; 8:45 am]  
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