

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Lesquerella filiformis* (Missouri Bladder-pod)**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: The Service determines endangered status for *Lesquerella filiformis* Rollins (Missouri bladder-pod), an annual plant endemic to the unglaciated prairie area of southwest Missouri. *Lesquerella filiformis* is presently known at only nine locations in Dade, Greene, and Christian Counties, Missouri. The species is vulnerable due to low population numbers, limited distribution, and potential destruction of prairie habitat. This measure implements Federal protection provided by the Endangered Species Act of 1973, as amended, for *Lesquerella filiformis*.

DATE: The effective date of this rule is February 9, 1987.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Service's Regional Office of Endangered Species, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111.

FOR FURTHER INFORMATION CONTACT: James M. Engel, Endangered Species Coordinator (see **ADDRESSES** above) (612/725-3276 or FTS 725-3276).

SUPPLEMENTARY INFORMATION:**Background**

Lesquerella filiformis, a member of the mustard family, was first collected in 1887 in Missouri. However, the name *Lesquerella angustifolia* was misapplied to these early collections (Payson 1921). It was not until later that Rollins (1956) described *Lesquerella filiformis*. In later work, Rollins and Shaw (1973), further maintain *Lesquerella filiformis* as a distinct species.

Lesquerella filiformis is an annual with erect hairy stems to approximately 20 centimeters (8 inches) in height. Basal leaves are hairy on both surfaces, 1-2.25 centimeters (0.4-0.9 inch) long and 0.3-1 centimeter (0.1-0.4 inch) wide, and broadly rounded, and they taper to a narrow petiole. Stem leaves are 1-3.2 centimeters (0.4-1.3 inches) long, and 1.6-16 millimeters (0.06-0.6 inch) wide, and are also hairy on both surfaces, appearing silvery. Light yellow flowers with four petals usually appear at the tops of the stems in late April or early May (Morgan 1980). Morgan (1983) observed that flowering and seed dispersal usually occur within a period of four weeks. As the green seed capsules develop and mature, they turn light tan, split open, and disperse the seeds, leaving a papery septum attached to the pedicel. The species survives the hot summer in the form of seeds; germination occurs in the fall, and the plants overwinter in the rosette stage. They flower, fruit, and shed seeds when favorable temperatures and peak rainfall occur in the spring (Morgan 1983).

Lesquerella filiformis is restricted to the unglaciated prairie region of southwest Missouri at nine sites within Greene, Dade, and Christian Counties. It is believed to be extirpated in Jasper and Lawrence Counties, Missouri. It can

be distinguished from the only other *Lesquerella* species in Missouri, *Lesquerella gracilis* var. *gracilis*, an introduced species, by its gray-silvery appearance.

According to Morgan (1983), *Lesquerella filiformis* is found in open limestone glades where soils are shallow and the underlying limestone bedrock outcrops at or very near the ground surface. Associated species frequently found with *Lesquerella filiformis* are *Arenaria patula*, *Camassia scilloides*, *Northoscordum bivalve*, *Opuntia humifusa*, *Satureja arkansana*, *Tradescantia tharpaii*, *Verbena Canadensis*, and a species of *Sedum*. *Lesquerella filiformis* is usually not dominant within the community (Morgan 1980).

Three of the nine known populations of *Lesquerella filiformis* occur on Missouri State highway rights-of-way and are subject to periodic mowing; four populations are on private land with no protection; and two populations are found within the Wilson's Creek National battlefield (Morgan, personal communication 1985).

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 this report as a petition within the context of section 4(c)(2) of the Act (petition acceptance is now governed by section 4(b)(3) of the Act, as amended), and of its intention to review the status of the plant taxa named within. *Lesquerella filiformis* was named in the Smithsonian report as

endangered and was included in the Service's 1975 notice of review.

Lesquerella filiformis was also included as a category 1 species in an updated notice of review for plants published in the December 15, 1980, **Federal Register** (45 FR 82480). Category 1 comprises taxa for which the Service presently has sufficient biological information to support their being proposed to be listed as endangered or threatened.

The Endangered Species Act Amendments of 1982 required that all petitions, such as that of the Smithsonian, that were still pending as of October 13, 1982, be treated as having been received on that date. Section 4(b)(3) of the Act, as amended, requires that, within 12 months of the receipt of such a petition, a finding be made as to whether the requested action is warranted, not warranted, or warranted but precluded by other activity involving additions to or removals from the Federal Lists of Endangered and Threatened Wildlife and Plants. Therefore, on October 13, 1983, October 12, 1984, and again on October 11, 1985, the Service made the finding that listing of *Lesquerella filiformis* was warranted but precluded by other pending listing activity. A final finding, to the effect that the petitioned action was warranted, was incorporated in a proposed rule to determine endangered status for *Lesquerella filiformis*, issued in the **Federal Register** of April 7, 1986 (51 FR 11874).

Summary of Comments and Recommendations

In the proposed rule of April 7, 1986, and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices inviting general public comment were published in the *News-Leader*, Springfield, Missouri, April 19, 1986, and in *The Vedette*, Greenfield, Missouri, April 24, 1986. No public hearing was requested or held. Comments supporting the listing were received from the Missouri Department of Conservation, the Missouri Botanical Garden, and the USDA Forest Service. The International Union for Conservation of Nature and Natural Resources (IUCN) commented that it could provide no further information regarding the species.

The letter from the Missouri Botanical Garden provided information about ongoing propagation research and

advised that the Missouri Botanical Garden is prepared to bring *Lesquerella filiformis* into protective cultivation under the auspices of The Center for Plant Conservation. It also mentioned that populations of *Lesquerella* species tend to fluctuate from year to year. In addition to supporting the listing, the Forest Service advised that although there are potential *Lesquerella filiformis* sites on Forest Service lands in Missouri, no populations have yet been found.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Lesquerella filiformis* should be classified as an endangered species. Procedures found at 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 endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Lesquerella filiformis* Rollins (Missouri bladder-pod) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

Lesquerella filiformis occurs at nine locations in the unglaciated prairie area of southwest Missouri in limited portions of Dade, Greene, and Christian Counties. Historical data indicate that *Lesquerella filiformis* has probably never been more widespread than it is at present (Morgan 1983). Morgan (1980) estimated a total of about 550 individual plants within four sites. Although there are now nine known sites, the low number of individual plants (estimated at fewer than 5,000 in 1986) make the species vulnerable to collecting and other human disturbance. Two of the populations are within the Wilson's Creek National Battlefield (WCNB) in Christian and Greene Counties, where a system of interpretive trails extends through the sites. These populations receive some disturbance from visitors to the Battlefield site, but Morgan (1983) concluded that disturbance may help maintain the *Lesquerella filiformis* populations. Over 124,000 people visited Wilson's Creek National Battlefield in 1984; by 1990, it is expected 500,000 people per year may visit the area (D. L. Lane, Superintendent, WCNB, personal communication 1985). Research is needed to determine proper management techniques for

maintenance of the species, especially at disturbed sites. The National Park Service is aware of the significance of *Lesquerella filiformis*. Three populations of *Lesquerella filiformis* occur in Dade County within Missouri highway rights-of-way. Two of these populations extend onto private land. Because of yearly right-of-way treatments, there is a threat of destruction to these populations. Cooperation with the State Department of Highways and Transportation is necessary in order to provide these sites additional protection from accidental mowing or chemical treatment. The remaining four populations are located on private property; two sites in Dade County and one each in Greene and Christian Counties. The Service is not aware of any plans to develop or alter these sites; however, the prairie habitat could be lost due to more intensive agricultural activities.

Morgan (1983) reported that *Lesquerella filiformis* populations can be found on highway rights-of-way for one and two seasons, then disappear completely from these known sites during the subsequent year. Rogers (Missouri Botanical Garden, personal communication, April 24, 1986) also reports that *Lesquerella* populations tend to fluctuate from year to year. Morgan (personal communication 1986) reported that two of the larger populations known in 1984 could not be relocated in 1986. This phenomenon further points up the need for further research and management in order to maintain and promote the species.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Wildflower collectors may reduce populations in more accessible sites. As Steyermark (1963) pointed out, this plant with handsome yellow flowers makes a desirable addition to rock gardens and may be vulnerable to overcollecting. Plants within the Wilson's Creek National Battlefield cannot be collected without a permit from the National Park Service.

C. Disease or Predation

Seed predation by insects and fungal infection of developing capsules have been reported by Morgan (1983). It is not known whether the ensuing loss of reproductive capacity constitutes a significant threat to the species.

D. The Inadequacy of Existing Regulatory Mechanisms

Lesquerella filiformis is officially listed as endangered by the State of

Missouri. Missouri regulations prohibit exportation, transportation, or sale of plants on the State and Federal lists. Collecting, digging, or picking any rare or endangered plant without permission of the property owner is prohibited.

Three populations of *Lesquerella filiformis* are found on State land within highway rights-of-way. Two populations of this species occur on Federal lands administered by the National Park Service. Park Service regulations prohibit the removal of plants from parks other than with a collector's permit; these regulations will be further strengthened by prohibitions of the Endangered Species Act. These restrictions on collecting and trade, however, do not specifically provide for protection or management of the species' habitat.

E. Other Natural or Manmade Factors Affecting its Continued Existence

None known.

In determining to issue this final rule, the Service has carefully assessed the best scientific information available regarding the past, present, and future threats faced by this species. Based on this evaluation, the preferred action is to list *Lesquerella filiformis* as an endangered species. Only nine populations of this species are known to exist and four of these populations are on privately owned property and receive no protection or management designed to enhance the species' continued existence.

Endangered status is appropriate because of the vulnerability of this species. For reasons detailed below, it is not considered prudent to designate 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 that 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 involved (50 CFR 424.12). The Service believes that designation of critical habitat for *Lesquerella filiformis* would not be prudent, because no benefit to the species can be identified that would outweigh the potential threats of vandalism or collection, which might be exacerbated by the publication of a detailed critical habitat description and map.

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 land acquisition, if necessary, and cooperation with the States. It also requires that recovery actions be carried out for all listed species. These actions are initiated by the Service following listing. The protection required of Federal agencies and applicable 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 (see revision at 51 FR 19926; June 3, 1986). 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 an activity may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The National Park Service has jurisdiction over a portion of this species' habitat. Federal activities that could impact *Lesquerella filiformis* and its habitat in the future may include recreational and interpretive development. It has been the experience of the Service that the majority of section 7 consultations are resolved so that the species is protected and the project can continue.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general prohibitions and exceptions that apply to all endangered plant species. With respect to *Lesquerella filiformis*, all 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 this species, transport it in interstate or foreign commerce in the course of a commercial activity, sell it or offer it for sale in interstate or foreign commerce, or remove it from an

area under Federal jurisdiction and reduce it to possession. Certain exceptions 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. It is anticipated that few permits would ever be sought or issued, since this plant 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 Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, DC 20240 (703/235-1903).

National Environmental Policy Act

The Fish and Wildlife 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. The reasons for this determination were published in the Federal Register on October 25, 1983 (48 FR 49244).

Literature Cited

- Morgan, S.W. 1980. Status Report on *Lesquerella filiformis* Rollins. Missouri Department of Conservation. Unpub. ms. 15 pp.
- Morgan, S.W. 1983. *Lesquerella filiformis*: an endemic mustard. *Natural Areas Journal* 3:59-62.
- Payson, E.R. 1921. A monograph of the genus *Lesquerella*. *Ann. Missouri Bot. Garden* 8:103-236.
- Rollins, R.C. 1956. On the identity of *Lesquerella angustifolia*. *Rhodora* 58:199-202.
- Rollins, R.C. and E.A. Shaw. 1973. The genus *Lesquerella* (Cruciferae) in North America. Harvard University Press, Cambridge, Pp. 92-95.
- Steyermark, J.A. 1963. *Flora of Missouri*. Iowa State University Press, Ames.

Author

The author of this final rule is William F. Harrison (see ADDRESSES section) (612/725-3276 or FTS 725-3276).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

PART 17—[AMENDED]

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

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

Authority: Pub. L. 93-205, 87 Stat. 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>Lesquerella filiformis</i>	Missouri bladder-pod	U.S.A. (MO)	E	252	NA	NA

Dated: November 28, 1986.

P. Daniel Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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