

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AH59

Endangered and Threatened Wildlife and Plants; Reclassification of *Lesquerella filiformis* (Missouri Bladderpod) from Endangered to Threatened**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to reclassify *Lesquerella filiformis* (Missouri bladderpod) from endangered to threatened under the Endangered Species Act of 1973, as amended (Act). We are proposing this reclassification because the endangered designation no longer correctly reflects the current status of this plant based on the plant's significant progress toward recovery, and in response to a petition from the Missouri Department of Conservation (MDC) to reclassify this species. Since the time of listing, the number of known populations of the plant has substantially increased and the threats to some of the larger populations have decreased because of land acquisition, landowner contact programs, and beneficial management initiatives. This proposal, if made final, would extend the Federal protection and recovery provisions for threatened plants provided by the Act to the Missouri bladderpod.

DATES: Comments from all interested parties must be received by August 11, 2003 so they can be considered in our final decision. Public hearing requests must be received by July 25, 2003.

ADDRESSES: Comments and materials concerning this proposal should be sent to: Field Supervisor, U.S. Fish and Wildlife Service, 608 E. Cherry Street, Room 200, Columbia, MO 65201-7712. Comments may also be submitted by electronic mail to bladderpod@fws.gov or by facsimile to 573/876-1914. The subject line should be "Bladderpod Comments." Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address following the close of the comment period.

FOR FURTHER INFORMATION CONTACT: Paul McKenzie, Ph.D., Columbia Field Office (see ADDRESSES section) (telephone: 573/876-1911, ext. 107; facsimile: 573/876-1914). Individuals who are hearing

impaired or speech impaired may call the Federal Relay Service at 800/877-8337 for TTY assistance.

SUPPLEMENTARY INFORMATION:**Background**

Lesquerella filiformis (Missouri bladderpod) is an annual plant with erect, hairy stems approximately 20 centimeters (cm) (8 inches (in)) in height that branch from the plant's base. Basal leaves are hairy on both surfaces, 1.0–2.25 cm (0.4–0.9 in) long, 0.3–1.0 cm (0.1–0.4 in) wide, broadly rounded, and tapering to a narrow petiole. Stem leaves are densely hairy with stellate hairs on both surfaces, 1.0–3.2 cm (0.4–1.3 in) long and 1.6–16 millimeters (mm) (0.06–0.6 in) wide, and have a silvery appearance. Bright yellow flowers with 4 petals occur at the top of the stems in late April or early May (Morgan 1980). Missouri bladderpod is restricted to shallow soils of limestone glades in southwestern Missouri (Hickey 1988; Thomas 1996) and northwestern Arkansas and, occasionally, dolomite glades in north-central Arkansas (John Logan, Missouri Department of Natural Resources (MDNR), pers. comm. 2000).

Lesquerella filiformis Rollins, a member of the mustard family (Brassicaceae), was first collected in 1887 in southwestern Missouri. Payson (1921), however, misapplied the name *Lesquerella angustifolia* (Nutt.) S. Wats. to these early collections. Rollins (1956) formally described *Lesquerella filiformis* as a distinct species, and its taxonomic validity was further supported in a subsequent monograph on the genus *Lesquerella* in North America by Rollins and Shaw (1973).

Historically, Missouri bladderpod was believed to be a State endemic plant known solely from a few sites in two counties in southwestern Missouri (Morgan 1980; U.S. Fish and Wildlife Service 1988). In 1980, a total of 550 individual plants were estimated at 4 sites, and at the time of listing as endangered in 1987, an estimated 5,000 plants were determined to occur at 9 sites (Morgan 1980; 52 FR 679, January 8, 1987). At the time of the completion of the Missouri Bladderpod Recovery Plan in 1988, the species was known from 11 sites in Christian, Dade, and Greene Counties, MO (U.S. Fish and Wildlife Service 1988). During that same year, the Service funded a four-county survey for the species in Missouri, and an additional 45 sites were located (Hickey 1988). A followup survey in 1989 yielded an additional 13 sites (Thurman and Hickey 1989). Further botanical explorations led to the discovery of 16 additional sites,

including locations in an additional county in Missouri (Lawrence County) and one site each in Izard and Washington Counties, AR (Theo Witsell, Arkansas Natural Heritage Commission, *in litt.* 2002). In the spring of 1997, MDC botanist Bill Summers (while working on the Flora of Missouri project) discovered the species at a limestone/dolomite quarry in Izard County, northcentral Arkansas (Theo Witsell *in litt.* 2002). Subsequent investigations following this find led to documentation of an additional site in Washington County, northwestern Arkansas, discovered in 1992 (Theo Witsell *in litt.* 2002). In the spring of 1998, surveys were expanded in Arkansas, and, although no new sites were discovered in the State, a more extensive population of Missouri bladderpod was found at the Izard County site than had been originally discovered in 1997 (John Logan, Arkansas Natural Heritage Commission, pers. comm. 1998). The population at the Washington County site had not been observed since 1992 until it was rediscovered on May 1, 2002, when approximately 500 flowering and fruiting plants were discovered on a small glade opening at the original 1992 site (Theo Witsell, *in litt.* 2002). Currently, Missouri bladderpod is known to occur at a total of 61 sites in 4 counties in Missouri and 2 sites in 2 counties in Arkansas.

Population levels of Missouri bladderpod fluctuate widely as is typical of winter annuals, depending on edaphic (soil components) and climatic conditions, and factors such as seed crop from the preceding season, seed survival in the seed bank, recruitment from the seed bank, and the survival of growing plants (Thomas 1998). Annual monitoring data have been collected for a minimum of 11 consecutive years at two Missouri sites, and irregular monitoring has occurred at numerous other sites. Thomas (1998) and Boetsch (*in litt.* 2002) reported changes in population status of *Lesquerella filiformis* between 1988 and 2001 on National Park Service (NPS) property at Bloody Hill Glade, Wilson's Creek National Battlefield, and observed that the population ranged between 0 and 303,446 plants, with an average annual population of 63,170 plants (Table 1). The MDC monitored 21 permanent plots within one population at the Rocky Barrens Conservation Area between 1992 and 2001 and noted that the number of individual plants varied between 2 and 3,584 (Tim Smith, MDC, *in litt.* 2002, Table 1). Monitoring of a population at Cave Springs Outcrop Glade in Dade County in 1980, 1984,

1988, 1990, and 1993 yielded 500, 545, 50, 0, and 0 plants, respectively (MDC 2002a). To date, the maximum population estimate at the Izard County, AR, site has been "tens of thousands of plants," in 1997, while in 1999 only a few plants were found at the same site (Theo Witsell, *in litt.* 2002). Irregular monitoring (a minimum of 4 years of data between 1993 and 1999) at seven Nature Conservancy registry sites yielded similar fluctuations in population numbers as described elsewhere, with estimates ranging from 0 to 47 plants at the smallest population and 3 to 3,448 plants at the largest (Susanne Greenlee, TNC, *in litt.* 1999, MDC 2002a).

TABLE 1.—ANNUAL POPULATION ESTIMATES OF MISSOURI BLADDERPOD ON BLOODY HILL GLADE (WILSON'S CREEK NATIONAL BATTLEFIELD) AND IN 21 PLOTS AT ROCKY BARRENS CONSERVATION AREA, GREENE COUNTY, MO, 1988–2001

[From Thomas 1998; Tim Smith, *in litt.* 2002; John Boetsch, *in litt.* 2002]

Year	Estimated population size (number of plants)	
	Bloody Hill Glade	Rocky Barrens Conservation Area (21 plots)
1988	58,351	—
1989	31,911	—
1990	10,154	—
1991	303,446	—
1992	24,611	110
1993	0	1,211
1994	0	200
1995	18,514	2,295
1996	88,166	224
1997	33,873	3,584
1998	30,475	1,283
1999	66,650	320
2000	72,623	143
2001	145,604	2
Average	63,170	¹ 937

¹ Average within 21 permanent plots—total population size at this site is much larger.

An examination of the status of most extant sites following the procedures established by Hickey (1988) was conducted in the spring of 2000. Hickey visited 52 extant sites between April and May and noted that: (1) Populations of the species were found in the same terrace or rock shelf as they were in 1988–1990, and (2) some sites exhibited lower numbers than in 1988–1990, apparently attributable to the drought conditions, increase in cedar density or encroachment of other woody vegetation, or competition from exotic

species of brome grasses (*Bromus spp.*). Increases in population density at some locations apparently resulted from tree removal and maintained grazing (Hickey 2000). Continued long-term monitoring of some larger sites in Missouri and the site in Izard County, AR, is also planned.

In years when germination, overwinter survival, seedling establishment, and plant growth are ideal, *Lesquerella filiformis* populations can be so large as to make rangewide population estimates extremely difficult. Despite the difficulty, estimates made by Hickey (1988) at 55 sites in Missouri yielded approximately 400,000 plants. Had rangewide estimates been taken in 1991 when 303,446 plants were estimated at Bloody Hill Glade, Wilson's Creek National Battlefield (Table 1, Thomas 1998), the population that year likely would have exceeded 500,000 plants. However, given the extreme annual fluctuations in population size, only long-term monitoring efforts patterned similarly to the protocol developed for the Wilson's Creek National Battlefield (Kelrick 2001a, 2001b) can accurately reflect the true population status and trend of this species and effectively evaluate the efficacy of management regimes on bladderpod habitat (Thomas 1998).

The current 63 extant sites have the following Natural Community rankings by The Nature Conservancy (TNC): (1) 11 (10 in Missouri and 1 in Arkansas) are graded A (*i.e.*, are relatively stable and undisturbed natural communities with a high diversity of conservative species); (2) 18 (all in Missouri) are graded B (*i.e.*, late successional or lightly disturbed communities, or recently lightly disturbed or moderately disturbed in the past but now recovered, and the biological diversity has not been greatly reduced); (3) 1 in Arkansas is graded AB (*i.e.*, intermediate between A and B); (4) 17 in Missouri are graded C (*i.e.*, midsuccessional, moderately to heavily disturbed communities, or moderate recent disturbance or heavy past disturbance with decreased recent disturbance); and (5) 16 in Missouri are graded D (*i.e.*, early successional or severely disturbed communities where the structure and composition of the community has been severely altered with few characteristic native species present) (MDC 2002a, Theo Witsell, *in litt.* 2002).

Threats identified by the Service at the time of listing (52 FR 679, January 8, 1987) were: (1) Vulnerability of small populations to overcollecting and human disturbance, (2) lack of research on proper management techniques necessary to maintain and promote

populations of the species, (3) potential impacts of annual maintenance activities to populations located on highway rights-of-way, (4) seed destruction by insects and fungal infections, and (5) inadequate protection or management on public and private property necessary for the species' continued existence. Subsequently, the Service (1988) documented the presence of exotic plant species, such as *Bromus tectorum* (a cheat grass), in bladderpod habitat as a significant threat, and this was further supported by observations by Hickey (1988, 2000) and Thomas (1996, 1998). Additionally, Hickey (1988, 2000) and Thomas (1996) identified development, especially land-use changes resulting from urban expansion, as a major threat to the species, and Hickey (1988) noted an increase in grazing pressure at some of the sites discovered during a four-county survey.

Although no specific reclassification (endangered to threatened) criteria were provided in the Recovery Plan, the following recovery (delisting) criteria were given: 30 self-sustaining populations, 15 of which are in secure ownership, must be at least one-half acre in size each and show self-sustaining populations for at least 7 years (U.S. Fish and Wildlife Service 1988). We indicated that these recovery goals could be accomplished through the following actions: (1) An inventory of suitable habitat for new populations, (2) the protection and management of existing populations, (3) the continued monitoring of populations and initiation of research on the species, (4) the development and initiation of management programs on protected sites, (5) the establishment of new populations on public land, and (6) the development of public awareness and support to further the conservation of the species.

Although some information gaps concerning the life history requirements of *Lesquerella filiformis* remain, research conducted since the species was listed in 1987 has significantly improved our understanding of the ecological needs of this species. Dr. Michael Kelrick (Truman State University, MO) has conducted and supervised graduate student work on demographics, seed bank ecology, matrix population dynamics used in the development of a population model and protocol for long-term monitoring, analyses of the effectiveness of various management prescriptions utilized to restore and enhance bladderpod habitat, reproductive success, fecundity, and factors influencing germination, seedling establishment and vegetative

growth, metapopulation dynamics, and genetic diversity within and between populations (e.g., Harms 1992; Graham 1994). Lisa Potter Thomas of the NPS at Wilson's Creek National Battlefield has also conducted extensive research on the species involving life history ecology (e.g., factors influencing survivorship, plant vigor, and reproduction); the potential impacts of human foot trampling on the species; techniques useful in controlling exotic plants in bladderpod habitat; an examination of microhabitat parameters; and demographic studies that centered on germination, density of flowering stems, survivorship, and fecundity (Thomas and Jackson 1990; Thomas and Willson 1992; Thomas 1996, 1998).

Other recommended research and recovery activities include: (1) Investigating the pollination ecology of the species; (2) revising the Recovery Plan objective established in 1988 to reflect the current knowledge of the species; (3) securing funding to provide necessary information essential to complete recovery and to facilitate the removal of the species from the list of federally protected species; (4) evaluating the efficacy of different management techniques; and (5) assuring that threats such as urban development and competition from exotic plants, both of which result from rapid population growth and urbanization, do not increase (The Nature Conservancy 2002; Hickey 1988; U.S. Fish and Wildlife Service 1988; Thomas and Jackson 1990; Thomas 1996).

Previous Federal Actions

Section 12 of the Act directed the Secretary of the Smithsonian Institution to prepare a report, within 1 year after passage of the Act, 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 Director of the Service published a notice in the **Federal Register** (40 FR 27823) of his acceptance of the report of the Smithsonian Institution 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 his intention thereby 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. A subsequent notice of review published in the December 15, 1980, **Federal Register** (45 FR 82480)

included *L. filiformis* as a Category 1 species, indicating that we believed there was sufficient biological information to support a proposal to list the species as endangered or threatened.

The Endangered Species Act Amendments of 1982 required that all petitions, including the report of the Smithsonian Institution, still pending as of October 13, 1982, be treated as 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 higher priority activities 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 activities. The proposed rule to list *L. filiformis* as endangered was published on April 7, 1986 (51 FR 11874), and the final rule was published on January 8, 1987 (52 FR 679). The Recovery Plan was approved on April 7, 1988 (U.S. Fish and Wildlife Service 1988).

In letters dated January 26 and February 17, 1998, the Service received a petition from the MDC to reclassify *Lesquerella filiformis* from endangered to threatened. On March 18, 1998, we responded and indicated that, based on our Listing Priority Guidance issued on October 23, 1997, we could not address the petition until we completed other higher priority listing actions. The Act requires us to make certain findings on petitions to add species to the List of Endangered and Threatened Plants, remove species from the List, or change their designation on the List. This proposed rule constitutes both our 90-day finding that the petitioned action may be warranted and our 12-month finding that the action is warranted.

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for determining whether to add, reclassify, or remove a species from the List of Endangered and Threatened Plants using five factors described in section 4(a)(1). These factors and their application to *Lesquerella filiformis* Rollins (Missouri bladderpod) are as follows:

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

At the time of listing, *Lesquerella filiformis* was known to occur at only nine locations in Dade, Greene, and Christian Counties, MO. As described in the BACKGROUND section, surveys and research since that time have documented 63 extant sites. Currently, this species is known to occur at a total of 61 sites in 4 counties in Missouri and 2 sites in 2 counties in Arkansas. Of these, 30 have a TNC Nature Community Rank of A, B, or AB.

Taking into consideration annual fluctuations in population, the estimated total number of plants known in Missouri has increased from approximately 550 plants in 1980 (Morgan 1980) to a potential maximum of 400,000–500,000 plants when climatic and edaphic conditions are ideal for germination, overwinter survival, seedling establishment, growth, and seed production. Additionally, a maximum of “tens of thousands” of plants have been reported at the IZARD County, AR, site (Theo Witsell, *in litt.* 2002). Given that the 2 sites in Arkansas are separated by approximately 150 miles and are about 85–100 miles from the nearest location in southwestern Missouri, the possibility exists that additional populations of *Lesquerella filiformis* are yet to be discovered in southern Missouri and northern Arkansas, especially because the IZARD County, AR, site is partially dolomitic, a geological feature previously not targeted for surveys in Missouri.

In addition, the threat of habitat loss has been reduced by the acquisition and management of occupied sites by public land management agencies and TNC (Table 2). The MDC and TNC successfully protected one of the largest known sites, Rocky Barrens in Greene County, MO, by purchasing a total of 281 acres of occupied habitat between 1988 and 1993. Another five sites in Missouri are under public ownership or a long-term conservation agreement, including approximately 29 acres at the Wilson's Creek National Battlefield in Christian and Greene Counties; 3 acres at the Nathan Boone State Historic Site in Greene County; and approximately 40 acres at the Bois D'Arc Conservation Area in Greene County, an MDC property. Additionally, TNC has secured a 100-year lease to manage 47 acres of bladderpod habitat at South Greenfield Glade in Dade County, MO (Beth Churchwell, TNC, pers. comm. 2000).

TABLE 2.—BENEFICIAL ACTIVITIES TO ENHANCE MISSOURI BLADDERPOD SITES UNDER PUBLIC OWNERSHIP OR A LONG-TERM EASEMENT AGREEMENT

Site	Managing agency	Acreage	Management activities	Other conservation activities
Wilson's Creek National Battlefield.	National Park Service.	4 sites, ~29 acres.	Control of woody vegetation, exotic grasses, and sericea lespedeza using a variety of methods, including prescribed burning, mechanical removal, and reducing foot traffic impacts.	Ongoing monitoring and demographics; life history and micro-habitat studies; public outreach and education.
Rocky Barrens Conservation Area.	Missouri Department of Conservation.	191 acres	Control of woody vegetation and exotic grasses using prescribed burning and mechanical removal.	Ongoing monitoring; public outreach and education; support of various research projects.
Rocky Barrens	The Nature Conservancy.	90 acres ...	Control of woody vegetation and exotic grasses using prescribed burning and mechanical removal.	Ongoing monitoring; public outreach and education; support of various research projects.
Bois D'Arc Conservation Area.	Missouri Department of Conservation.	40 acres ...	Control of woody vegetation and exotic grasses using prescribed burning and mechanical removal.	Ongoing monitoring; public outreach and education.
Nathan Boone State Historic Site.	Missouri Department of Natural Resources.	3 acres	Control of woody vegetation and exotic grasses using prescribed burning; fencing to eliminate cattle from occupied habitat.	Ongoing monitoring; planned development of interpretative program.
South Greenfield	The Nature Conservancy.	47 acres ...	Control of woody vegetation and exotic grasses using prescribed burning and mechanical removal.	Ongoing monitoring and floristic inventories of associated species.

The MDNR, MDC, TNC, and Wilson's Creek National Battlefield have undertaken various management activities to further the conservation of the species (Table 2). Management techniques that have been effective in enhancing bladderpod habitat include prescribed burning, chainsawing, and bulldozing to control the encroachment of woody vegetation such as red cedar (*Juniperus virginiana*) and exotic plants such as annual brome grasses (*Bromus* spp.) and sericea lespedeza (*Lespedeza cuneata*), rerouting hiking trails to reduce potential impact from foot traffic, and installing fencing to exclude cattle from occupied habitat (Table 2).

In particular, prescribed burning is a highly beneficial technique to improve bladderpod habitat. In 1988, an estimated 1,500 plants were counted at Rocky Barrens Conservation Area (Hickey 1988), and 2,000 plants were determined to occur on the same site in 1992 (MDC 2002a). In August 1993, MDC conducted a controlled burn on the area (Figg and Priddy 1994), and over 50,000 plants were estimated in May 1994 (MDC 2002a). The species responded similarly at the same site in the spring of 1997 and 1998, following controlled burns in August 1996 (Figg and Davit 1997) and 1997. MDC botanist Tim Smith estimated that the population at the site in May 1998 contained "tens of thousands" of plants (MDC 2002a).

Additional protection and management of bladderpod habitat has occurred through TNC's Registry

Program. Between 1986 and 1996, nine sites in Christian, Dade, and Greene Counties were added to the organization's Registry Program. Under this program, private landowners have an agreement with TNC to protect Missouri bladderpod sites to the best of their ability and to notify TNC regarding any new threats to the species or its habitat or if the landowner plans to sell the property. Additionally, TNC personnel assist private landowners by providing management suggestions, including the development of site-specific plans, and by notifying them of various landowner incentive programs that promote Best Management Practices. Best Management Practices developed by MDC (2000) include surveys for bladderpod and bladderpod habitat, controlling the encroachment of eastern red cedars and exotic species onto glade habitat through mechanical cutting and prescribed fire, avoiding the use of nonspecific herbicides between October and July in occupied bladderpod habitat, and avoiding heavy grazing or grazing during flowering and fruiting periods (March-July) (Susanne Greenlee, TNC, pers. comm. 1998).

In 1998, the Service provided funding to TNC to enhance 90 acres of degraded bladderpod habitat on Rocky Barrens Conservation Area in Greene County. Missouri bladderpod habitat was improved by prescribed fire and cutting of invasive eastern red cedar trees. Although a thorough estimate of Missouri bladderpod plants has not yet been possible on the managed area since

these restoration efforts were conducted in 1998, flowering plants were observed at the location in 1999 (Doug Ladd, TNC, pers. comm. 2000).

Potential impacts to populations of *Lesquerella filiformis* on rights-of-way maintained by the Missouri Department of Transportation (MODOT) was another threat identified at the time of listing (52 FR 679, January 8, 1987) and also when the Recovery Plan was completed for the species (U.S. Fish and Wildlife Service 1988). Education programs within the MODOT have significantly reduced the potential impact of mowing or chemical treatment of highway rights-of-way. Maintenance supervisors who work within the range of Missouri bladderpod in Missouri have been alerted to the location of extant populations and have been trained in the identification and habitat needs of the species. Consequently, most maintenance activities that may impact the species are avoided. In situations where potential impacts are unavoidable, MODOT, as a designated representative for the Federal Highway Administration, initiates consultation with the Service and further discusses such activities with the MDC to minimize these impacts (Gene Gardner, MODOT, pers. comm. 2000).

The expansion of the exotic brome grasses *Bromus tectorum* L. and *B. sterilis* L. has been identified by some as a potential threat to the Missouri bladderpod (The Nature Conservancy 2002; Hickey 1988; U.S. Fish and Wildlife Service 1988; Thomas and

Jackson 1990; Thomas 1996; Hickey 2000). Thomas and Jackson (1990), however, indicated that exotic species of *Bromus* spp. can be controlled with a combination of management techniques. While such management is undoubtedly labor-intensive, and continued monitoring of this threat is warranted, there is no solid evidence to date that these exotic grasses have eliminated populations of *Lesquerella filiformis*, especially in areas that are regularly managed by techniques such as prescribed fire. Nonetheless, further research on the potential adverse impacts of brome grasses to Missouri bladderpod is clearly warranted.

The glade and other rocky habitats where *Lesquerella filiformis* is found were probably maintained historically by fires. The cessation or significant reduction in the number of fires occurring on glades in the last few centuries has enabled woody vegetation, such as red cedar, to encroach onto bladderpod habitat. The encroachment of such woody vegetation onto glades occupied by *Lesquerella filiformis* has been frequently listed as a threat to this species' continued existence (Hickey 1988; Thomas and Jackson 1990; Thomas 1996; The Nature Conservancy 2002). Recent research by MDC and TNC at the Rocky Barrens Conservation Area and Preserve in Greene County, MO, has provided strong evidence that this species responds well on glades that have been cleared of woody vegetation by the combination of cedar tree removal and the use of controlled fires (Figg and Davit 1997). Prescribed burns have been conducted on six sites under public ownership with positive results (Table 2). This management tool may be used at additional bladderpod sites.

Grazing and haying are potential threats to Missouri bladderpod populations under private ownership (U.S. Fish and Wildlife Service 1988). Overgrazing may impact small populations of the plant, but minor grazing actually enhances these populations (MDC 1997). Presently, there are no known incidents where haying has been a threat to existing Missouri bladderpod populations.

The poor, rocky, thin soils over bedrock make bladderpod habitat nonconductive to increases in agricultural development within the species' range in Missouri. Hickey (2000) reported that one population was destroyed by construction of a putting green on a golf course and another was destroyed as a result of residential construction. Thus, as discussed by Hickey (1988, 2000) and Thomas (1996), the species' habitat is threatened most

by urban/suburban expansion and development.

The Service, TNC, and all public land management agencies with extant sites on lands under their jurisdiction have been actively involved in various aspects of public outreach and education associated with Missouri bladderpod. These include developing landowner contact programs, producing educational brochures, and holding identification and ecology workshops on the species. In 1995, MDC published a new brochure for the Rocky Barrens Conservation Area that highlighted Missouri bladderpod. In the same year, MDC conducted an identification workshop for employees of the National Resources Conservation Service (NRCS) and the Williams Pipeline Company in Springfield, MO. This workshop was extremely productive as it led to the discovery of a previously unknown site of Missouri bladderpods along a powerline right-of-way in Greene County. In February 1997, MDC published an Endangered Species Guide Sheet for Missouri bladderpod and distributed it to private individuals and public agency employees through MDC, TNC, NRCS, and the University of Missouri Extension Service. The brochure provided information on identification, life history requirements, habitat, distribution, causes of historic decline, current threats to the species, and management guidelines that would contribute to bladderpod recovery.

Public outreach materials developed for Missouri bladderpod include a Best Management Practice Guide Sheet distributed by MDC (2000) that outlines suggested management practices for projects that could potentially impact the species identified by MDC during environmental reviews. A public information endangered species card was published by the Conservation Commission of the State of Missouri (1999). The species was also highlighted in two separate issues of MDC's *Missouri Conservationist* (June 1995 and February 1999) involving endangered species.

In 1992, MDC and the Service cooperated in a landowner contact program involving 25 private landowners with extant populations of *Lesquerella filiformis* in an approximately 5-square-mile area in Greene County, MO. The purpose of the program was to educate the landowners on the habitat needs of Missouri bladderpod and to suggest compatible land management techniques that would benefit the species. Over 80 percent of the people contacted responded favorably to the protection and management of the bladderpod and

its habitat (Amy Salveter, U.S. Fish and Wildlife Service, pers. comm. 2000).

Although great progress has been made toward the recovery of *Lesquerella filiformis*, the species is still threatened by urban/suburban expansion and development and encroachment of invasive woody plants and exotic pasture grasses. The recent discoveries in northeastern Arkansas indicate that additional surveys in southern Missouri and northern Arkansas are warranted. Additionally, population estimates at all extant sites in Missouri in one year have not been undertaken since observations made by Hickey (1988). Extended demographic analyses conducted by Thomas (1996), Kelrick (2001a, 2001b), and Smith (*in litt.* 2002) strongly suggest that a well-established long-term monitoring program is necessary to accurately detect population trends.

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

At the time of listing, overcollecting by botanists and flower garden enthusiasts was considered a threat to the species' continued existence. Although Steyermark (1963) indicated that Missouri bladderpod is a desirable addition to rock gardens, and the Service postulated that the species may be vulnerable to overcollection at the time of listing (52 FR 679, January 8, 1987), there is no evidence to date that such activities have taken place. Additionally, given the large number of currently known extant sites (61 in Missouri and 2 in Arkansas), adverse impacts from overcollecting by wildflower enthusiasts or botanical collectors is extremely unlikely, even during years when the number of flowering individuals is low. Overutilization is no longer believed to pose a distinct threat to this species.

C. Disease or Predation

Morgan (1983) studied one population of *Lesquerella filiformis* at Wilson's Creek National Battlefield in Greene County, MO, and determined that insect predation and fungal infection damaged seed set. Although there may be a concern for such impacts during low population levels, it is likely that Missouri bladderpod has adapted to such natural influences and the species is probably well buffered against these natural occurrences at more robust population levels. To date, there is no evidence that these agents are exotic to the species' habitat, or that naturally occurring incidents of disease or predation have contributed to a recent decline in any of the known extant populations.

D. The Inadequacy of Existing Regulatory Mechanisms

The MDC recently adopted the conservation status ranking system developed by NatureServe, TNC, and the Natural Heritage Network for global (G ranks) and State (S ranks) rankings for all State- and federally-listed species in Missouri (Missouri Natural Heritage Program 2001). *Lesquerella filiformis* is officially listed in Missouri as rare and uncommon, with a ranking of S3 (rare and uncommon in the State; 21 to 100 occurrences), and G2 (imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction; typically 5 or fewer occurrences or very few remaining individuals or acres). This species is also listed in the Wildlife Code of Missouri (MDC 2002b). Species listed in the Wildlife Code of Missouri under 3CSR10–4.111 are protected by State Endangered Species Law 252.240. Missouri regulations prohibit the exportation, transportation, or sale of plants on the State or Federal lists. A small percentage of Missouri's populations of Missouri bladderpod occur on lands either administered by MDC, MDNR, NPS, or TNC. These agencies prohibit the removal of this plant from their properties without a collector's permit.

Currently, *Lesquerella filiformis* is State-listed in Arkansas as S1 (critically imperiled in the State because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the State; typically 5 or fewer occurrences or very few remaining individuals; Theo Witsell, *in litt.* 2002) but receives no additional protection other than those specified under the Act (John Logan, pers. comm. 1998).

E. Other Natural or Manmade Factors Affecting its Continued Existence

Various human disturbances were considered as threats to the species at the time *Lesquerella filiformis* was listed in 1987 (52 FR 679, January 8, 1987). Thomas and Willson (1992) examined the potential impact of trampling on a population at Wilson's Creek National Battlefield and noted that the species' survival decreased by 42 percent when subjected to the highest level of trampling intensity. Although the number of populations of *L. filiformis* on public areas that receive high levels of trampling are few in number, precautions will need to be taken in the future to protect Missouri bladderpod habitat at such locations. Other studies and observations, however, suggest that this species actually benefits from low

to moderate levels of human-induced disturbance that reduce woody encroachment and stimulate seed bank germination through soil disturbance (MDC 1997; Jerry Conley, MDC, *in litt.* 1998). Excessive disturbance from trampling, overgrazing by livestock, and significant alterations of glade habitat through the use of ground-moving equipment could become increased threats to the species in the future and should be closely monitored.

Summary of Status

Under the Act, an endangered species is defined as one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as one that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Given that (1) *Lesquerella filiformis* now occurs at 61 sites in Missouri and 2 sites in Arkansas (an increase of 54 sites since listing); (2) 6 sites in Missouri are under public ownership or under a long-term conservation agreement and are managed to benefit the species; (3) 9 additional sites in Missouri receive some degree of protection as part of TNC's Registry Program; (4) the species responds well to the proper management of its habitat, especially cedar tree removal and controlled burning; (5) minor levels of disturbance may actually benefit rather than hinder the species; and (6) significant knowledge has been gained regarding the life history requirements and population dynamics of the species, we no longer believe that this species meets the definition of an endangered species.

Although there has been a considerable increase in the number of known populations, an expansion of the known range of the species, and a sizeable increase in the number of known individual plants, the Missouri bladderpod has not recovered to the point that it can be removed (delisted) from the Federal List of Endangered and Threatened Plants. These numerical increases are encouraging, and they provide evidence suggesting the species has exceeded the first delisting criterion, which requires 30 self-sustaining populations. However, the delisting criteria also require that 15 of the populations must be in secure ownership, be at least one-half acre in size, and show self-sustaining populations for at least 7 years. At this time, fewer than 10 populations can be considered to be in secure ownership, and only 3 of these populations have been monitored for at least 7 years. Although acreage of these secured populations is large, because of the year-

to-year population fluctuations demonstrated by this species, at this time we can document that only one of these three populations is viable and self-sustaining for at least 7 years. Therefore, we believe delisting this species would be premature.

Consequently, on the basis of our review of the best available scientific and commercial data, we propose to reclassify the Missouri bladderpod from endangered to threatened under the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing results in public awareness and conservation actions by Federal, State, tribal, and local agencies, private organizations, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery plans be developed for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed 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) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or 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 consultation with us.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all threatened plants. With respect to *Lesquerella filiformis*, all prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71 for threatened plants, apply. These prohibitions, in part, 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 in interstate or foreign commerce, or remove and reduce the species to possession from areas under Federal jurisdiction. In addition, for plants listed as endangered, the Act prohibits

malicious damage or destruction on areas under Federal jurisdiction and the removal, cutting, digging up, or damaging or destroying of such plants in knowing violation of any State law or regulation, or in the course of violating State criminal trespass law. Seeds from cultivated specimens of threatened plants are exempt from these prohibitions provided that their containers are marked "Of Cultivated Origin." Certain exceptions to the prohibitions apply to our agents 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 plants under certain circumstances. Such permits are available for scientific purposes and to enhance the propagation or survival of the species. For threatened plants, permits also are available for botanical or horticultural exhibition, educational purposes, or special purposes consistent with the purpose of the Act. We anticipate that few trade permits would ever be sought or issued for *Lesquerella filiformis* because the plant is not in cultivation or common in the wild.

This rule proposes to change the status of *Lesquerella filiformis* at 50 CFR 17.12 from endangered to threatened. If made final, this rule would formally recognize that this species is no longer in imminent danger of extinction throughout all or a significant portion of its range. Collection, damage, or destruction of threatened plants on Federal lands is prohibited, although in appropriate cases a Federal endangered species permit may be issued to allow collection. Such activities on non-Federal lands would constitute a violation of section 9, if conducted in knowing violation of State law or regulations or in violation of State criminal trespass law. Section 7 of the Act would still continue to protect this species from Federal actions that would jeopardize its continued existence. We are not aware of any otherwise lawful activities being conducted or proposed by the public that will be affected by application of section 9 to this listing.

Finalization of this rule will not be an irreversible action on the part of the Service. Reclassifying *Lesquerella filiformis* to endangered may be considered if changes occur in management, habitat, or other factors that negatively alter the species' status or increase threats to its survival.

Questions regarding whether specific activities will constitute a violation of section 9 should be directed to the Field Supervisor of the Service's Columbia Field Office (see the **ADDRESSES** section). Requests for copies of the regulations

concerning listed plants and general inquiries regarding prohibitions and issuance of permits under the Act may be addressed to the U.S. Fish and Wildlife Service, BHW Federal Building, 1 Federal Drive, Fort Snelling, MN 55111 (phone 612/713-5350, facsimile 612/713-5292).

Public Comments Solicited

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, we solicit comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. In some circumstances, we will withhold a respondent's identity from the rulemaking record, as allowable by law. If you wish for us to withhold your name or address, you must state this request prominently at the beginning of your comment. We will not consider anonymous comments. We will make all submissions from organizations or businesses available for public inspection in their entirety (see **ADDRESSES** section). Comments are particularly sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;
- (2) The location of any additional populations of this species;
- (3) Additional information concerning the range, distribution, and population size of this species; and
- (4) Current or planned activities in the subject range and their possible impacts on the species.

In promulgating a final regulation on this species, we will take into consideration the comments and additional information we receive. Such communications may lead to a final regulation that differs from this proposal.

Public Hearing

The Act provides for a public hearing on this proposal, if requested. Requests must be filed by the date specified in the **DATES** section above. Such requests must be made in writing and addressed to the Field Supervisor (see **ADDRESSES** section).

Peer Review

In accordance with our policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists

regarding this proposed rule. The purpose of such review is to ensure that our decisions are based on scientifically sound data, assumptions, and analyses. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed reclassification of *Lesquerella filiformis*.

Required Determinations

Executive Order 12866

Executive Order 12866 requires each Federal agency to write regulations that are easy to understand. We invite your comments on how to make this proposal easier to understand including answers to questions such as the following: (1) Is the discussion in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposal? (2) Does the proposal contain technical language or jargon that interferes with its clarity? (3) Does the format of the proposal (e.g., grouping and order of sections, use of headings, paragraphing) aid or reduce its clarity? What else could we do to make the proposal easier to understand?

Send a copy of any comments that concern how we could make this proposal easier to understand to Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You may also send the comments by e-mail to Exsec@ios.doi.gov.

Paperwork Reduction Act

Office of Management and Budget (OMB) regulations at 5 CFR 1320, which implement provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*) require that Federal agencies obtain approval from OMB before collecting information from the public. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information, unless it displays a currently valid control number. Implementation of this rule does not include any collections of information that require approval by OMB under the Paperwork Reduction Act. For additional information concerning permit and associated requirements for threatened species, see 50 CFR 17.72.

National Environmental Policy Act

We have determined that an Environmental Assessment and Environmental Impact Statement, 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. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires Federal agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant action, and no Statement of Energy Effects is required.

References Cited

A complete list of all references cited herein, as well as others, is available upon request from the Service's Columbia, MO, Field Office (*see ADDRESSES* section).

Author

The primary author of this proposed rule is Paul M. McKenzie, Ph.D. (*see ADDRESSES* section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we hereby propose 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: 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. Section 17.12(h) is amended by revising the entry for “*Lesquerella filiformis*” under FLOWERING PLANTS to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
*	*	*	*	*	*		*
FLOWERING PLANTS							
*	*	*	*	*	*		*
<i>Lesquerella filiformis</i>	Missouri bladderpod	U.S.A. (AR, MO)	Brassicaceae	T	253, __	NA	NA
*	*	*	*	*	*		*

Dated: April 16, 2003.
Steve Williams,
Director, Fish and Wildlife Service.
[FR Doc. 03–14355 Filed 6–9–03; 8:45 am]
BILLING CODE 4310–55–P