DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Boltonia decurrens (Decurrent False Aster)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines *Boltonia decurrens* (Decurrent false aster), a wet prairie perennial, to be a threatened species under authority of the Endangered Species Act (Act) of 1973, as amended. Twelve populations are known to be extant in five Illinois counties, and two populations, one of which is divided into two subpopulations, are known in one Missouri county. The plant is believed extirpated from 13 other counties in Illinois and three counties in Missouri. It is threatened by destruction and modification of the floodplain forest along the Illinois and Mississippi rivers due to wetland drainage and agricultural expansion. Because of extensive row crop cultivation within the watersheds of these rivers, habitat of the decurrent false aster is continually being modified or destroyed by heavy siltation. This action will implement Federal protection, provided by the Act of 1973, for *Boltonia decurrens*.

EFFECTIVE DATES: December 14, 1988.

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

FOR FURTHER INFORMATION CONTACT: James M. Engel, Endangered Species Coordinator, at the above address (612/725–3276 or FTS 725–3276).

SUPPLEMENTARY INFORMATION:

Background

Boltonia decurrens, a member of the Aster family, was recognized as a distinct species by Schwegman and Nyboer (1985). However, the taxon has gone by many names in the past. Torrey and Gray (1841) first described it as *Boltonia glastifolia* L' Her. *beta decurrens*. Subsequently, Wood (1869) described it as *Boltonia decurrens*; Engelmann (1884) as *B. asteroides* (L.) L'Her. var. *decurrens*; and Fernald and Griscom (1940) considered it *B. latisquama* var. *decurrens*. According to Schwegman and Nyboer (1985), most taxonomists considered the one distinctive feature of the taxon to be leaf bases that are decurrent down the stem. However, Fernald and Griscom (1940) attached more significance to the underground parts and qualified their treatment of *Boltonia latisquama* var. *decurrens* pending further analysis of the underground parts of *Boltonia*. Thus Schwegman and Nyboer (1985) undertook a comprehensive study of the roots and rhizomes of *Boltonia asteroides* var. *recognita* and *Boltonia decurrens* and concluded that *B. decurrens* is clearly separated from *B. asteroides* var. *recognita* by its decurrent leaves and the lack of long white creeping rhizomes. Schwegman and Nyboer (1985) observed that where *Boltonia decurrens* and *Boltonia asteroides* var. *recognita* were found growing together, the former never had rhizomes, and the latter always produced them.

Boltonia decurrens, a perennial, reproduces both vegetatively, by producing basal shoots, and sexually. It will grow to a height of 1.5 meters (59 inches), sometimes reaching heights of more than two meters (79 in.). It is characterized by conspicuous decurrent leaves which are linear to lanceolate about 5–15 cm (2–6 in.) long, and 5–20 mm (.2–.8 in.) wide. The lower leaves are generally broader and longer. The inflorescence is branched and somewhat leafy with several aster like heads with yellow disks 7–14 mm (.3–.6 in.) wide. The rays are white to purple (more frequently purple or violet than white) and 1–1.8 cm (.4–.7 in) long. Aster like flowers about the size of a quarter-dollar appear on the tall bushy plants from July to October.

Boltonia decurrens was first collected by Dr. Short about 1841 in habitat described as "wet prairies of Illinois." Subsequent investigators, Morgan (1980), Kurz (1981), and Schwegman and Nyboer (1985), list habitat as disturbed alluvial ground along the Mississippi and Illinois rivers and open muddy shores of the floodplain forest along the Mississippi and Illinois rivers. Morgan (1980) describes the habitat as disturbed alluvial ground bordering sloughs, ditches, ponds, and streams. Historically, *B. decurrens* has been known from this type of habitat along a 400 km (250-mile) stretch of river floodplain from LaSalle, Illinois, on the Illinois River, downstream to St. Louis, Missouri, on the Mississippi River. An outlying record reported in 1976, but not relocated since, is known from Cape Girardeau, Missouri, about 195 km (120 miles) down the Mississippi River from St. Louis (Schwegman and Nyboer 1985). It is thought to be extirpated from thirteen counties in Illinois and three counties in Missouri.

Extensive surveys for the plant were conducted in 1980 and 1981 by Schwegman and Nyboer (1985). An aerial survey of the Illinois River was conducted in 1984 (Schwegman 1984). These surveys located a total of 13 populations in Illinois. Schwegman (pers. comm.) reports a 1986 total of 12 populations in Illinois; three previously known populations disappeared (two were plowed up and one succumbed to forest succession), but two new populations were discovered. These 12 Illinois populations are located along the Illinois River in Morgan, Schuyler, Fulton, and Marshall Counties, and one along the Mississippi River in St. Clair County. In addition, two populations are known from St. Charles County, Missouri (S. Morgan, Missouri Department of Conservation, pers. comm., and B. Stebbins, Fish and Wildlife Service, pers. comm.).

Schwegman and Nyboer (1985) report that the extant populations in Illinois are found in disturbed alluvial soil habitats such as old agricultural fields, roadsides, and disturbed lake shores. The plant is found in similar habitat (disturbed areas) in Missouri (J.H. Wilson, Missouri Department of Conservation, pers. comm.).

Kurz (1981) identifies associated open forest species of *Boltonia decurrens* to include *Acer saccharinum, Populus deltoides, Platanus occidentalis, Betula nigra, Salix nigra,* and *Acer negundo.* Herbaceous associates are *Polygonum pensylvanicum, Leersia oryzoides, Xanthium strumarium,* and *Bidens aristosa.* Because of frequent flooding, both the overstory and understory are often open.

Boltonia decurrens was first recommended for Federal listing as a threatened species by the Smithsonian Institution in its December 15, 1974, report to Congress, "Report on Endangered and Threatened Plant Species of the United States." On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of the Smithsonian Institution report as a petition within the context of Section 4(c)(2) (petition acceptance is now governed by Section 4(b)(3) of the Act). On December 15, 1980, the Service published a revised notice of review for native plants (45 FR 82480). *Boltonia asteroides* var. *decurrens* was included in that notice as a category 2 species.

Category 2 species are those for which the Service believes additional data must be obtained before a proposal to list is warranted. On September 27, 1985 (50 FR 39526), the Service again published a revised notice for native plants in the **Federal Register**; *Boltonia asteroides* var. *decurrens* was included in that notice as a category 2 species. The treatment of *Boltonia decurrens* by Schwegman and Nyboer in 1985, and status information received since the September 27, 1985 (50 FR 39525), notice indicate that listing *Boltonia decurrens* as a threatened species is warranted.

The Endangered Species Act Amendments of 1982 required that all petitions pending as of October 13, 1982, be treated as having been submitted on that date. The deadline for a finding on these petitions, including the one for *B. decurrens*, was October 13, 1983. On October 13, 1983; October 12, 1984; October 11, 1985; October 10, 1986; and again on October 13, 1987; the petition finding was made that listing *B. decurrens* was warranted but precluded by other pending actions, in accordance with Section 4(b)(3)(C)(iii) of the Act. A final finding to the effect that the petitioned action was warranted was incorporated in a proposed rule to determined threatened status for *Boltonia decurrens* issued in the **Federal Register** of February 25, 1988 (53 FR 5398).

Summary of Comments and Recommendations

In the February 25, 1988, proposed rule 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, scientific organizations, landowners, and other interested parties were contacted and requested to comment. Notices inviting public comment were published in the following newspapers: *The Fulton Democrat*, Lewistown, Illinois; *Mason County Democrat*, Havana, Illinois; *Illinoian Star Daily*, Beardstown, Illinois; *Journal Star*, Peoria, Illinois; *Lacon Home Journal*, Lacon, Illinois; and *Jacksonville Journal Courier*. Four comments were received and are discussed below.

Comments supporting the listing were received from the Illinois and Missouri Departments of Conservation and a Horticultural Taxonomist from the Missouri Botanical Garden. The U.S. Army Corps of Engineers did not object to the listing and offered comments on the habitat of *B. decurrens*. The Illinois and Missouri Departments of Conservation advised that St. Charles County is the correct location for *B. decurrens* in Missouri. In addition, Missouri advised that one of the two populations in St. Charles County is threatened by road construction and part of that population was transplanted last fall. The Missouri Department of Conservation will monitor the transplant and search for additional populations of *B. decurrens*. Missouri further suggested that the effects of flooding on the distribution and survival of the species be examined in more detail. The comment from the Missouri Botanical Garden advised that they have the species in cultivation and it is doing well. The Taxonomist from the Garden believes that further taxonomic study is needed for this species, and advised that some is underway. All comments are now incorporated into this rule and the Service appreciates the assistance to all parties.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Boltonia decurrens* should be classified as a threatened 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 *Boltonia decurrens* (Torr. & Gray) Wood are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range. Boltonia decurrens* is threatened by the elimination and modification of its floodplain habitat. Schwegman and Nyboer (1985) attribute this to the elimination of wet prairies and marshes for agricultural development. As a result of the increased agricultural activities, flooding regimes have changed and siltation has increased. Schwegman and Nyboer (1985) also cite extensive rowcrop agricultural practices and numerous levee systems that increase the amount of silt deposited on river banks during floods, and contribute to the problem. The increased amount of siltation is considered to be the main factor in the reduction of *Boltonia decurrens*. Schwegman (Ambrose 1986) explains that the plant prefers moist, sandy areas, normally found around natural lakes in the Illinois River floodplain; however, these areas now receive two to three inches of silt per year, preventing seed germination. Before the river carried so much silt, the sandier shores of lakes and streams were suitable for seed germination and maintenance of this species. Schwegman (Ambrose 1986) expects that the only remaining populations of *Boltonia decurrens* occur in areas where agricultural practices maintain proper conditions for seed germination. Without this manipulation, and in the absence of silt-free flooding, the species is not self-sustaining. Effects of flooding on the distribution of *Boltonia decurrens* are not well understood. Research is needed to provide a better understanding of the plant's survival capabilities. Kurz (1981) believes that siltation is apparently more severe now than in pre-settlement times. Increased use of herbicides may also have potential detrimental affects, but more study is needed.

Five of the 14 known extant populations of *B. decurrens* occur on public lands; three on Illinois State lands and two on Army Corps of Engineers lands in St. Charles County, Missouri. Management plans are being developed for the *Boltonia decurrens* populations found on Illinois State lands. The Corps of Engineers may soon enter into a cooperative management agreement with the Missouri Department of Conservation on the areas in St. Charles County, Missouri. Soil manipulation on selected sites within these areas will help us to better understand reproductive requirements of this taxon. Nearly two-thirds of the known populations of *Boltonia decurrens* are found on private lands and receive no protection or management consideration.

B. *Overutilization for commercial, recreational, scientific or educational purposes.* Commercial trade of this plant is not known to exist, but collection could reduce populations in more accessible sites.

C. *Disease or predation.* None known which affects this taxon.

d. *The inadequacy of existing regulatory mechanisms. Boltonia decurrens* is not presently recognized as being endangered or threatened by the State of Illinois; however, it is currently under review for addition to the State's threatened list. The plant is listed as endangered by Missouri where State regulations prohibit exportation, transportation, or sale of plants on the State or Federal lists. Collecting, digging, or picking any rare or endangered plant without permission of the property owner is prohibited. While approximately 20 percent of the known populations of *Boltonia decurrens* are located upon land owned by the State of

Illinois and receive some form of protection, a majority of the known populations are, as yet, unprotected. Two of the populations in Missouri are located on lands administered by the Corps of Engineers. Although plants are found on public lands, there is no guarantee of protection without specific management plans for *Boltonia decurrens*. The Endangered Species Act offers possibilities for additional protection of this taxon through Section 6 cooperation between the States and the Service, and through Section 7 (interagency cooperation) requirements.

E. *Other natural or manmade factors affecting its continued existence.* Because *Boltonia decurrens* seems to thrive in disturbed areas, the inadvertent destruction of plants in the course of normal agricultural activities will continue to plague the species' survival (Schwegman and Nyboer 1985). According to Schwegman (Ambrose 1986), the threat of a severe flood such as the one in 1981 that inundated the Illinois floodplain and deposited large amounts of silt still exists. For several years after that flood it was feared that *B. decurrens* was extirpated. In Illinois, the taxon is only known from disturbed habitat. Nearly all the known populations are found in habitat kept open by occasional cropping. Research is needed to better understand the amount of disturbance and habitat alteration the plant can tolerate.

In determining to make this final rule the Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species. Nine of the 14 known populations are on privately owned property and receive no protection or management designed to enhance the species' continued existence.

Based on this evaluation, the preferred action is to list *B. decurrens* as threatened, as opposed to endangered, because the species is not in danger of immediate extinction, but does have a restricted range and is confronted by a number of problem. For reasons detailed 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 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 *Boltonia decurrens* would not be prudent because no benefit to the species can be identified that would outweigh the potential threat of vandalism or collection, which might be exacerbated by the publication of detailed critical habitat maps.

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. It also requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. Some may be undertaken prior to listing, circumstances permitting. Management actions that may be of benefit to *Boltonia decurrens* include: developing and implementing protection plans for publicly owned areas; establishing a monitoring system; censusing all known populations; and establishing controlled till plots to monitor seedling emergence after cultivation. The protection required of Federal agencies and the prohibitions against collecting 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 consult with the Service on any action that is likely to jeopardize the continued existence of such a species or result in the destruction or adverse modification of critical habitat, if any is being designated. 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 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 formal consultation with the Service. The U.S. Army Corps of Engineers has jurisdiction over one of the *Boltonia decurrens* populations in St. Charles County, Missouri.

The Food Security Act of 1985 (Pub.L. 99–198) also provides at sections 1314 and 1318 opportunities for the Service and State conservation agencies to acquire restrictive easements beneficial to endangered and threatened species on lands acquired by the Farmers Home Administration in the course of farm foreclosures. Upon notification by the Farmers Home Administration of pending foreclosures, the Service is continually reviewing possible areas where restrictive easements would benefit endangered and threatened species.

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 plant species. With respect to *Boltonia decurrens*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, will 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, or sell or offer for sale this species in interstate or foreign commerce. Seeds from cultivated specimens are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances. International and interstate commerce in *Boltonia decurrens* is not known to exist. It is anticipated that few trade 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 Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27239, Central Station, Washington, DC 20038–7329, (703/343–4955).

National Environmental Policy Act

The Fish and Wildlife Service has determined that Environmental Assessments, 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. The reasons for this determination were published in the

Federal Register on October 25, 1983 (48 FR 49244).

References Cited

Ambrose, D. 1986. Rare flowers such as these. Outdoor Highlights. Illinois Department of Conservation. 14(8):6–9.

Engelmann, G. 1884. *in* Gray, A synoptical flora of North America 1(2):166.

Fernald, M., and L. Griscom. 1940. A century of additions to the flora of Virginia. Rhodora 42:355–416, 419–482, 503–521.

Kurz, D.R. 1981. Status report on *Boltonia asteroides* var. *decurrens* in Illinois. Unpub. rep. 9 pp.

Morgan, S.W. 1980. Status report on *Boltonia asteroides* var. *decurrens* in Missouri. Unpubl. rep. 13 pp.

Schwegman, J.E., and R.W. Nyboer. 1985. The taxonomic and population status of *Boltonia decurrens*. Castanea 50 (2):112–115.

Schwegman, J.E. 1984. 1984 status report on *Boltonia decurrens* in Illinois. Unpubl. rep. 4 pp.

Torrey, J., and A. Gray. 1841. Flora of North America 2:188.

Wood, A. 1869. Class-book botany. p. 430.

Author

The primary author of this 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).

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the CFR, 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. 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. 99–635, 100 Stat. 3500 (1986), unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Asteraceae, 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					
Asteraceae—Aster family:						
*	*	*	*	*	*	
Boltonia decurrens	Decurrent false aster	U.S.A. (IL, MO)	T	341	NA	NA
*	*	*	*	*	*	

Dated: October 25, 1988.

Susan Recce,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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