
DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Proposal of Endangered Status and Critical Habitat for the Large-flowered Fiddleneck (*Amsinckia grandiflora*)**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to list the large-flowered fiddleneck (*Amsinckia grandiflora*) as an endangered species. This action is being taken because population numbers have declined since historic times, possibly as a result of agricultural conversions, intensive livestock grazing, urban development, and other land use activities that have altered the natural plant communities within the large-flowered fiddleneck's historic range. Today the species has an extremely restricted range, very reduced gene pool, and low reproductive potential. The single known location is being threatened by the encroachment of weedy exotics and other species of *Amsinckia*, and there is the possibility that testing of chemical explosives and controlled burning (both activities occur in its present environment) may be adversely affecting the species.

The large-flowered fiddleneck occurs in southwestern San Joaquin County, California. In August of 1980, fewer than 50 plants were observed. Critical habitat is included with this proposed rule. The proposed rule would provide protection for the remaining wild population of this species.

DATES: Comments from all interested parties must be received by July 9, 1984. Requests for a public meeting must be received by June 22, 1984.

ADDRESSES: Interested persons or organizations are requested to submit comments to: Regional Director, U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 NE Multnomah Street, Portland, Oregon 97232. Comments and materials relating to this rule are available for public inspection by appointment during normal business hours at the Service's Regional Office at the above address.

FOR FURTHER INFORMATION CONTACT: For further information on the proposed rule contact Mr. Sanford Wilbur, U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 NE Multnomah Street, Portland, Oregon 97232 (503/231-6131).

SUPPLEMENTARY INFORMATION:

Background

The large-flowered fiddleneck, an annual species, was first described by Asa Gray in 1876 as a variety of *Amsinckia vernicosa* Hooker and Arnott. Historically, the species was found in Alameda, Contra Costa, and San Joaquin Counties, California. Today, it is known to survive only at one site covering ½ acre. Very little is known about its ecology, but a number of studies have been concerned with its unusual reproductive system. It is thought that the rarity and endangerment of this species are due, in part, to its reproductive system, which is more "primitive", less efficient, and thus less competitive than those of related species (see Ray and Chisaki, 1957; Ornduff, 1976). Introduction of grazing animals is believed to have been responsible for extirpation of some previously known populations. Other factors that may threaten to adversely affect the species and/or its habitat include: the testing of chemical high explosives in the vicinity of the proposed critical habitat; grass fires resulting from such tests; controlled burns performed within or near the habitat; and the encroachment of weedy competitors, especially other, more aggressive, fiddleneck species.

The Secretary of the Smithsonian Institution, as directed by Section 12 of the Endangered Species Act of 1973 (the

Act), prepared a report on those plants considered to be endangered, threatened, or extinct in the United States. This report (House document #94-51), was presented to Congress on January 9, 1975. On July 1, 1975, the Fish and Wildlife Service published a notice in the *Federal Register* (40 FR 27823-27924) accepting the report as a petition within the context of Section 4(c)(2) of the Act (petition acceptance provisions are now contained in Section 4(b)(3)(A)), and giving notice of its intention to review the status of the plant taxa named therein, including the large-flowered fiddleneck. As a result of this review, on June 16, 1976, the Service published a proposed rule in the *Federal Register* (41 FR 24523-24572) to determine approximately 1,700 vascular plant species, including the large-flowered fiddleneck, to be endangered species pursuant to Section 4 of the Act. In 1978, amendments to the Act required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to proposals already over 2 years old. On December 10, 1979, the Service published a notice in the *Federal Register* (44 FR 70796-70797) withdrawing the portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired. The Service published an updated notice of review for plants on December 15, 1980 (45 FR 82479), including *Amsinckia grandiflora*. On February 15, 1983, the Service published a notice (48 FR 6752) announcing its findings that the listing of this species, as petitioned by the Smithsonian Institution, may be warranted in accord with Section 4(b)(3)(A) of the Act as amended in 1982. On October 13, 1983, a further finding was made the listing of *Amsinckia grandiflora* was warranted, but precluded by other pending listing actions, in accord with Section 4(b)(3)(B)(iii) of the Act; notification of this finding was published on January 20, 1984 (49 FR 2485). Such a finding requires the petition to be recycled, pursuant to Section 4(b)(3)(C)(i) of the Act. The present notice announces a finding that the listing is warranted, and simultaneously proposes to implement the petitioned action, in accord with Section 4(b)(3)(B)(ii) of the Act.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Act sets out a series of factors to be considered in determining whether any species is endangered or threatened. These factors and their application to *Amsinckia grandiflora* are as follows:

A. *The present or threatened destruction, modification, or curtailment*

of its habitat or range. Specimens of *Amsinckia grandiflora* were historically collected in Contra Costa, Alameda and San Joaquin Counties, California. Today the plant is known only from a small (approximately ½ acre) site on U.S. Department of Energy (DOE) land in southwestern San Joaquin County. This land is administered by the University of California Lawrence Livermore Laboratory, which uses the land for testing chemical explosives. In recent years, the population has consisted of fewer than 50 plants, all of which were found on the steep, west- and south-facing slopes of a ravine next to a drop tower (explosive test tower). According to DOE, testing does not occur in the immediate vicinity of the population. However, tests conducted nearby have the potential to start grass fires that could burn the population of the fiddleneck. These fires may affect the long-term survival of the species. In addition, DOE has authorized laboratory personnel to perform controlled burning in the test areas. Such burns, if conducted in or near the proposed critical habitat, may adversely affect the species and its habitat.

B. *Overutilization for commercial, recreational, scientific or educational purposes.* The large-flowered fiddleneck has an unusual flower morphology and highly restricted distribution, both of which contrast sharply with most other members of the genus. As a consequence, the species has been the object of a number of studies concerning the reproductive biology and evolution of the genus *Amsinckia*. Such studies often required the use of plant materials, usually reproductive parts or occasionally whole plants. The utilization of this small and restricted population for scientific purposes could become a significant threat to the species if not carefully monitored and managed.

C. *Disease or predation.* Grazing may have been responsible, at least in part, for extirpation of some populations of this species.

D. *The inadequacy of existing regulatory mechanisms.* Although the State of California lists the large-flowered fiddleneck as rare, State law does not provide adequate protection for this species in its natural habitat. The law provides that a land owner who has been notified by the State Fish and Game Commission that a State listed plant is growing on his property must notify the Department of Fish and Game "at least 10 days in advance of changing the land use to allow for salvage of such plant." Although State law also provides for such measures as research and land

acquisition, provisions of the Endangered Species Act would offer additional protection to this species and its habitat.

E. *Other natural or manmade factors affecting its continued existence.* Historically, the large-flowered fiddleneck was known to occur in Alameda, Contra Costa, and San Joaquin Counties. However, its former abundance and distribution were not well documented. Presumably, the decline of this species throughout most of its historic range has been the result of agricultural conversions, intensive livestock grazing, and other land-use activities that altered the natural plant communities of which it was a part. Further, although very little is known about the ecology of *Amsinckia grandiflora*, recent pollination studies suggest that its reproductive system is very primitive and relatively inefficient in comparison with related species (Ray and Chisaki, 1957; Ornduff 1976). Consequently, its inherently low reproductive potential places it at a distinct disadvantage in competition with other more aggressive or "weedy" species of *Amsinckia*.

In determining what action to take regarding *Amsinckia grandiflora*, the Service has carefully assessed the best scientific information available regarding past, present, and future threats to this species. In view of its demonstrated contraction of range and decline in numbers, it was considered most appropriate to propose listing as endangered, and designating the only site from which it is still known as critical habitat.

Critical Habitat

Critical habitat, as defined by Section 3 of the Act and at 50 CFR Part 424 means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management consideration or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrent with the determination that a species is endangered or threatened. Proposed critical habitat for the large-flowered fiddleneck is in San Joaquin County, California, and consists of the W½,

NW¼ and W½, SW¼ of T3S R4E, Section 28.

The Service is required to consider in determining what areas are critical habitat those physiological, behavioral, ecological, and evolutionary requirements essential to the conservation of the species and which may require special management consideration or protection. These requirements include, but are not limited to:

- (1) Space for individual and population growth and normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally
- (5) Habitats that are protected from disturbance or are representative of the historic geographical and ecological distribution of listed species.

With respect to the large-flowered fiddleneck, so little is known of its biology and ecology that it cannot definitely be said that the area proposed as critical habitat will satisfy all or most of these requirements on a long-term basis. It appears, however, that the proposed critical habitat, with a steep west and south facing slope and light-textured but stable soil, does at least satisfy the fiddleneck's short-term physiological needs. The area proposed may not include the entire suitable habitat of this plant and revision of critical habitat may be warranted in the future.

The critical habitat proposed exceeds the current range of the fiddleneck; such a designation is believed essential to the conservation of this plant. The fiddleneck's range is now limited to a half-acre area. Its continuation and stabilization within that area would likely not constitute recovery from endangerment, since a single grass fire or other local threat could render it extinct. The area proposed for critical habitat designation is believed to contain places suitable for expansion or relocation; without its full extent, recovery would not be likely. Accordingly, the Service believes designation of this area is essential to the conservation of this species.

Available Conservation Measures

Endangered species regulations published in 50 CFR Section 17.61 set forth a series of general prohibitions and exceptions that apply to all Endangered plant species. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, ship

in interstate or foreign commerce in the course of a commercial activity, or to sell this species, or offer it for sale in interstate or foreign commerce. It also would be illegal to deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever, and in the course of a commercial activity, any such plant. The Act, as amended in 1982, also prohibits the removal and reduction to possession of any such plant from land under Federal jurisdiction. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered plant species under certain circumstances. Regulations governing permits are at 50 CFR 17.62 and 17.63. Such permits are available for scientific purposes or to enhance the propagation or survival of the species. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

If this proposal is published as a final rule, Subsection 7(a)(2) of the Act would require Federal agencies not only to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the large-flowered fiddleneck but also require them to insure that their actions are not likely to result in the destruction or adverse modification of critical habitat of this species. Provisions for interagency cooperation are codified at 50 CFR Part 402.

Subsection 7(a)(4) of the Act requires Federal agencies to confer informally with the Secretary on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed under Section 4 of the Act or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of specifying a particular area as critical habitat. The Service will reevaluate the geographic critical habitat designation when preparing a final rule designating critical habitat for this species, after considering all additional information obtained.

The Service is notifying the Federal agency that has jurisdiction over the land under consideration in this proposed action. This Federal agency and other interested persons or organizations are requested to submit information on potential economic or other impacts of this proposed designation.

Several activities involving Federal agencies are presently known that may have an impact on the proposed critical habitat of the large-flowered fiddleneck. Section 4(b)(8) of the Act requires, to the maximum extent practicable, that any proposal to determine critical habitat be accompanied by a brief description and evaluation of those public or private activities that, in the opinion of the Secretary, may adversely modify such habitat if undertaken or which in turn may be impacted by such designation. Such activities are identified for this species as follows:

As mentioned previously, Lawrence Livermore Laboratory has been given funding and authorization by the Department of Energy to conduct various activities in the vicinity of the large-flowered fiddleneck population and its proposed critical habitat. These activities could occur directly in the vicinity of the population or anywhere within the 27 km² area of the testing facility. The principal concerns are with construction activities, testing of chemical high explosives, and controlled burning. It is believed that these activities could have an adverse impact on the large-flowered fiddleneck and its habitat unless carefully implemented.

Any activity that would result in a disturbance of the soil or hydrological regime where the large-flowered fiddleneck occurs would probably adversely modify the critical habitat. Also, any activity that may increase the frequency of grassfires in the area may adversely affect the population and modify the critical habitat. Designation of critical habitat may affect Federal activities and actions in the vicinity of the population by prohibiting or requiring modifications to testing activities, controlled burning, and construction activities.

It should be emphasized that critical habitat designation may not affect any of the Federal activities previously mentioned. If appropriate, the impacts will be addressed during informal conferral or formal consultation with Service as required by Section 7 of the Act.

National Environmental Policy Act

In accordance with a recommendation from the Council on Environmental

Quality (CEQ), the Service has not prepared any NEPA documentation for this proposed rule. The recommendation from CEQ was based, in part, upon a decision in the Sixth Circuit Court of Appeals, which held that the preparation of NEPA documentation was not required as matter of law for listings under the Endangered Species Act. *PLF v. Andrus*, 657 F.2d 829 (6th Cir. 1981).

Public Comments Solicited

The Service intends that the rules finally adopted will be accurate and as effective as possible in the conservation of the large-flowered fiddleneck. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, private interests, or any other interested party concerning any aspect of this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial, or other relevant data concerning any threat (or the lack thereof) to the species included in this proposal;

(2) The location of and the reasons that any habitat of this species should or should not be determined to be critical habitat as provided for by Section 4 of the Act;

(3) Additional information concerning the range and distribution of this species;

(4) Current or planned activities that may adversely modify the areas being considered for critical habitat; and

(5) The foreseeable economic and other impacts of the critical habitat designation on federally funded or authorized projects.

Author

The primary author of this rule is Morty Knudsen, Sacramento Endangered Species Office, 1230 "N" Street, 14th Floor, Sacramento, California 95814.

References

California Department of Conservation. 1969. Geologic map for the Santa Cruz quad., Division of Mines and Geology.
 Greene, E.L. 1894. Manual of the botany of the Region of San Francisco Bay. p. 263.

Cubery and Co., San Francisco, California.
 Macbride, J.F. 1917. A revision of the North American Species of *Amsinckia*. Contr. from the Gray Herb., n.s. 49, 116 pp.
 Ornduff, R. 1976. The reproductive system of *Amsinckia grandiflora*, a distylous species. Syst. Bot. 1:57-66.
 Ornduff, R. 1977. Status report on *Amsinckia grandiflora*. California Native Plant Society. 4 pp. Unpublished.
 Ray, P.M., and H.F. Chisaki. 1957. Studies on *Amsinckia*. I and II. Amer. J. Bot. 44:529-544.
 Rhodes, W.A., and M.L. Sauls. 1980. Preliminary report on the occurrence and status of *Amsinckia grandiflora* at Site 300. Unpublished report on file with Environmental Evaluations Group, Lawrence Livermore Laboratory, Livermore, California. 9 pp. maps and field notes.
 U.S. Department of Energy. 1978. Draft Environmental Impact Statement: Livermore Site, Livermore, California. U.S. Dept. of Energy, Wash. D.C., 163 pp. and Appendices.
 Weller, S.G., and R. Ornduff. 1977. Cryptic self-incompatibility in *Amsinckia grandiflora*. Evolution 31:47-51.

List of Subjects in 50 CFR Part 17

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

Proposed Regulations Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 reads 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. 97-204, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. It is proposed to amend § 17.12 by adding, in alphabetical order by family and genus, the following to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *
 (h) * * *

PLANTS

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Boraginaceae—Borage family						
<i>Amsinckia grandiflora</i>	Large-flowered fiddleneck	U.S.A. (CA)	E		17.96(a)	NA

§ 17.96 [Amended]

3. It is further proposed that § 17.96(a) be amended by adding critical habitat of the large-flowered fiddleneck after that of the _____ as follows: [The position of this and any following critical habitat under § 17.96(a) will be determined at the time of publication of a final rule.]

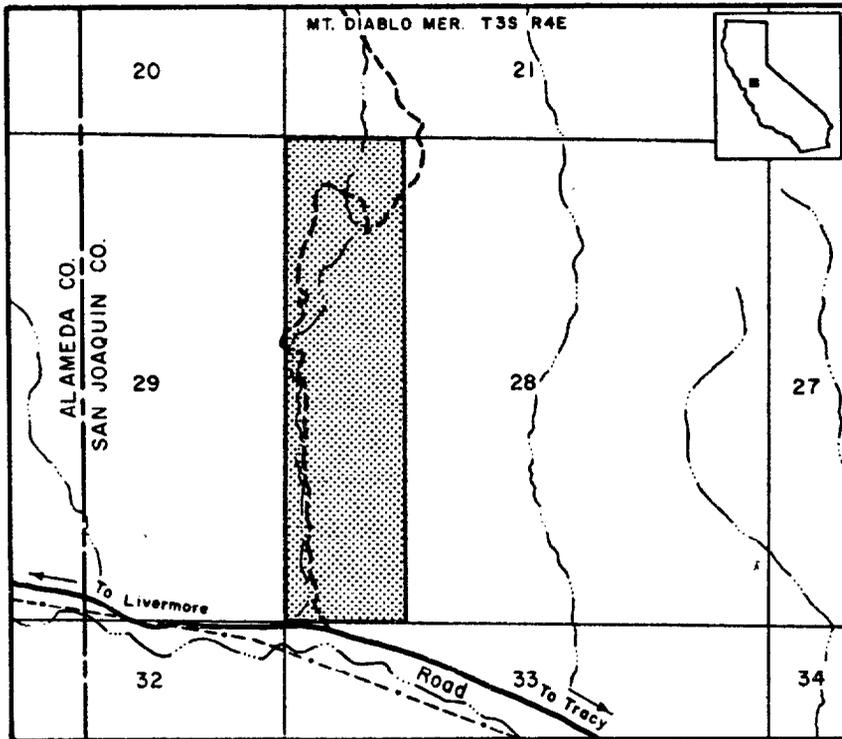
§ 17.96

(a) * * *

Critical Habitat for Large-Flowered Fiddleneck

Family Boraginaceae: Large-flowered fiddleneck (*Amsinckia grandiflora*) California, San Joaquin County, Mounty Diablo Meridian, T3S R4E Section 28 W ½ NW ¼ and W ½ SW ¼.

This include the known primary constituent elements of a steep, west and south facing slope with light textured but stable soils.



Dated: April 23, 1984.

G. Ray Arnett,
Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 84-12295 Filed 5-7-84; 8:45 am]

BILLING CODE 4310-55-M