

50 CFR Part 17**Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Sarracenia rubra* ssp. *jonesii* (Mountain Sweet Pitcher Plant)****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: The Service determines *Sarracenia rubra* ssp. *jonesii* (mountain sweet pitcher plant), a perennial insectivorous herb limited to 10 populations in North and South Carolina, to be an endangered species under authority of the Endangered Species Act of 1973, as amended (Act). *Sarracenia rubra* ssp. *jonesii* is endangered by drainage and other forms of habitat destruction and by collecting. This action will implement Federal protection provided by the Act for *Sarracenia rubra* ssp. *jonesii*.

EFFECTIVE DATE: October 31, 1988.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801.

FOR FURTHER INFORMATION CONTACT: Ms. Nora Murdock at the above address (704/259-0321 or FTS 672-0321).

SUPPLEMENTARY INFORMATION:**Background**

Sarracenia rubra ssp. *jonesii* was first described by E.T. Wherry (1929) from material collected in North Carolina in 1920. The taxonomy of this genus is extremely complex, with extensive natural hybridization documented (Bell 1949, 1952). There has been substantial disagreement about the taxonomic classification of *Sarracenia rubra* ssp. *jonesii*, with different authors having treated it as a regional variant

(McDaniel 1971), a form (Bell 1949), a subspecies (Wherry 1972, Schnell 1977, 1978), and as a distinct species (Wherry 1929, Case and Case 1976, McDaniel 1986). If *Sarracenia rubra* ssp. *jonesii* is formally redescribed as a full species (as recommended in McDaniel's 1986 report) after it is added to the List of Endangered and Threatened Plants, an editorial change to the list will be made to reflect this nomenclatural change.

Sarracenia rubra ssp. *jonesii* is an insectivorous, rhizomatous, perennial herb, which grows from 21 to 73 centimeters tall. The numerous erect leaves grow in clusters and are hollow and trumpet-shaped, forming slender, almost tubular pitchers (inspiration for the most frequently used common name) covered by a cordate hood. The pitchers are a waxy dull green, usually reticulate-veined with maroon-purple. The tube of the pitchers is retrorsely hairy within and often partially filled with liquid and decayed insect parts. The uniquely showy and fragrant flowers have recurving sepals, are borne singly on erect scapes, and are usually maroon in color. The species blooms from April to June, with fruits developing in August (Massey *et al.* 1983, Wood 1960). Reproduction is by seeds or by fragmentation of rhizomes. *Sarracenia rubra* ssp. *jonesii* can be distinguished from other subspecies of *Sarracenia rubra* by its greater pitcher height, scape length equal to pitcher height, long petiole, abruptly expanded pitcher orifice, cordate and slightly reflexed hood, and petals and capsules, which are twice as large as those of other *Sarracenia rubra* (Massey *et al.* 1983, Sutter 1987, Wherry 1929).

Other common names of pitcher plants include trumpets, bugle-grass, bod-bugles, dumb-watches, watches, buttercups, Eve's cups, biscuit flowers, frog bonnets, fly bugles, and huntsman's cups (Wood 1960, Radford *et al.* 1964). The many common names are illustrative of the fascination generated by these unique organisms. The evolutionary role of carnivory in such plants as *Sarracenia rubra* ssp. *jonesii* is not fully understood, but some evidence indicates that absorption of minerals from insect prey may allow carnivorous species to compete in nutrient-poor

habitats (Folkerts 1977). Insects are attracted by nectar secreted from glands near the pitcher orifice, or by the plant's coloration, and fall or crawl into the pitchers. Just inside the mouth of the pitcher tube is a very smooth surface, offering no foothold to most insects; below this the pitcher is lined with stiff downward-pointing hairs which assist descent and virtually prevent ascent. Those insects which cannot escape are eventually digested by enzymes in the fluid secreted inside the pitchers.

Sarracenia rubra ssp. *jonesii* is a plant endemic to a few mountain bogs and streams in southwestern North Carolina and northwestern South Carolina along the Blue Ridge Divide. Twenty-six populations of *Sarracenia rubra* ssp. *jonesii* have been reported historically; 10 remain in existence. Four of these populations are in Henderson and Transylvania Counties, North Carolina, and six are in Greenville County, South Carolina. Eight of the remaining populations are located on privately owned lands, and two populations are located on public lands administered by the South Carolina Wildlife and Marine Resources Department and the South Carolina Department of Parks, Recreation, and Tourism. The continued existence of this species is threatened by drainage, impoundment, grazing and cultivation, natural succession, commercial and scientific collection, and development for recreational, residential, and industrial facilities.

Most of the remaining populations are extremely small, with some covering an area of less than 50 square feet. Any significant alteration of the hydrology of these sensitive sites could further jeopardize the species. The site owned by the South Carolina Wildlife and Marine Resources Department is protected. However, the other publicly owned site is part of the State parks system in South Carolina and is vulnerable to any significant increase in intensity of recreational use. The remaining eight sites in private ownership are vulnerable to destruction by habitat alteration or by taking of plants by amateur and professional collectors.

Federal government actions on this species began with Section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. The Service published a notice in the July 1, 1975, **Federal Register** (40 FR 27832) of its acceptance of the report of the Smithsonian Institution as a petition within the context of Section 4(c)(2) [now Section 4(b)(3)] of the Act and of its intention thereby to review the status of the plant taxa named within. *Sarracenia rubra* ssp. *jonesii* was included in the Smithsonian report and in the July 1, 1975, Notice of Review. On December 15, 1980, the Service published a revised Notice of Review for Native Plants in the **Federal Register** (45 FR 82480). *Sarracenia rubra* ssp. *jonesii* was included in that notice as a category-1 species. Category-1 species are those species for which the Service currently has on file substantial information on biological vulnerability and threats to support proposing to list them as endangered or threatened species. A revision of the 1980 notice that maintained *Sarracenia rubra* ssp. *jonesii* in category-1 was published on September 27, 1985 (50 FR 39526).

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary to make certain findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Sarracenia rubra* ssp. *jonesii* because of the acceptance of the 1975 Smithsonian report as a petition. In October of 1983, 1984, 1985, 1986, and 1987, the Service found that the petitioned listing of *Sarracenia rubra* ssp. *jonesii* was warranted but precluded by other listing actions of a higher priority and that additional data on vulnerability and threats were still being gathered.

On February 10, 1988, the Service published, in the **Federal Register** (53 FR 3901), a proposal to list *Sarracenia rubra* ssp. *jonesii* as an endangered species. That proposal constituted the final finding as required by the 1982 amendments to the Endangered Species Act.

Summary of Comments and Recommendations

In the February 10, 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, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices inviting public comment were published in *The Times-News* (Hendersonville, North Carolina) and the *Greenville News* (Greenville, South Carolina) on February 20, 1988, and February 21, 1988, respectively.

Eight comments were received. Of these, six respondents expressed support for the proposal, including the Natural Heritage Program of the North Carolina Department of Natural Resources and Community Development; the Plant Conservation Program of the North Carolina Department of Agriculture; the South Carolina Nature Conservancy; a South Carolina chapter of the Sierra Club; and the U.S. Army Corps of Engineers, Wilmington District (Corps). Two comments were received which offered no new information and did not state a position on the proposal. The Corps indicated their intent to assert regulatory jurisdiction over the species' habitats, which would normally be covered under Nationwide Permit No. 26 (33 CFR 330.5(a)(26)). The Corps' response further stated that the listing of this species as endangered was not expected to significantly affect their regulatory activities in the area and stated the belief that, ". . . its listing will be an important step toward assuring its survival."

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Sarracenia rubra* ssp. *jonesii* should be classified as an endangered species. Procedures found at Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened due to one or more of the five factors described in Section 4(a)(1). These factors and their application to *Sarracenia rubra* ssp. *jonesii* Wherry (mountain sweet pitcher plant) are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range

Ten populations of *Sarracenia rubra* ssp. *jonesii* are known to exist in

Henderson and Transylvania Counties, North Carolina, and Greenville County, South Carolina. Sixteen other historically known populations have been extirpated due to drainage, impoundment, grazing and cultivation, collection, and development for recreational, residential, and industrial purposes. At least 2 of the remaining 10 populations have also been damaged to some extent by these activities. Only two of the extant populations are afforded some protection from human-induced habitat alterations; neither of these is protected from commercial or private collectors. Of the 16 populations that have been extirpated, at least 6 were eliminated by drainage of their habitat, 4 were flooded by impoundments, 3 were destroyed by construction of golf courses, 2 were eliminated by industrial development, and 1 was destroyed when its habitat was converted to agricultural use (Charles Moore, Brevard, North Carolina, personal communication, 1987; R. Sutter, North Carolina Plant Conservation Program, personal communication, 1987). Eight of the remaining 10 populations are currently threatened by habitat alteration. In some cases this takes the form of natural succession, with woody species encroaching onto the site, resulting in a drier, shadier habitat which is unsuitable for *Sarracenia rubra* ssp. *jonesii*. The area occupied by the species is rapidly developing as a center of tourism and, as such, is extremely vulnerable to continued and accelerated habitat destruction. Alteration of drainage patterns, unrestricted grazing of livestock, or development for residential/recreational or industrial purposes could further threaten the species if proper planning is not implemented.

B. Overutilization for commercial, recreational, scientific, or educational purposes

Sarracenia rubra ssp. *jonesii*, because of its rarity, is not currently a significant component of the commercial trade in native plants; however, pitcher plants in general are very attractive to the horticultural trade, and many species have been collected for sale and export for well over a century (Harper 1918). According to landowners and others (Craig Moretz, North Carolina State University, personal communication, 1987), collectors have removed plants as well as the entire seed crop from some populations in recent years, in spite of State legislation which makes this practice illegal. Publicity could generate an increased demand, which could

easily result in complete extirpation of some of the tiny remaining populations.

C. Disease or predation

Not applicable to this species at this time.

D. The inadequacy of existing regulatory mechanisms

Sarracenia rubra ssp. *jonesii* is afforded legal protection in North Carolina by North Carolina General Statutes, § 106-202.12 to 106-202.19 (Cum. Supp. 1985), which provides for protection from intrastate trade (without a permit), for monitoring and management of State-listed species, and prohibits taking of plants without written permission of landowners. *Sarracenia rubra* ssp. *jonesii* is listed in North Carolina as endangered-special concern—a category which allows for controlled sale of propagated plants. State prohibitions against taking are difficult to enforce and do not cover adverse alterations of habitat such as disruption of drainage patterns and water tables or conversion to agriculture or development. The species is recognized in South Carolina as endangered and of national concern by the South Carolina Advisory Committee on Rare, Threatened, and Endangered Plants in South Carolina; however, this State offers no statutory protection. Section 404 of the Federal Water Pollution Control Act could provide some protection for the habitat of *Sarracenia rubra* ssp. *jonesii*, particularly since the Corps has stated their intent to assert regulatory jurisdiction over sites occupied by the species (see "Summary of Comments and Recommendations" section); however, these sites will not be protected from habitat disturbance which does not involve the placement of fill on the site. The Endangered Species Act would provide additional protection and encouragement of active management where necessary for *Sarracenia rubra* ssp. *jonesii*.

E. Other natural or manmade factors affecting its continued existence

As mentioned in the "Background" section of this proposed rule, many of the remaining populations are small in numbers of individual stems and in terms of area covered by the plants. This, in addition to the rhizomatous nature of the species, indicates that little genetic variability exists in this species, making it more important to maintain as much habitat and as many of the remaining populations as possible. In some cases shrubs and trees threaten to invade this species' habitat, which could result in the elimination of *Sarracenia*

rubra ssp. *jonesii* by shading and desiccation. Since this type of succession is a relatively slow process, it is not considered an immediate threat to survival of the species at most sites. However, research and proper management planning for *Sarracenia rubra* ssp. *jonesii* is needed to address this aspect of the species' biology.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Sarracenia rubra* ssp. *jonesii* as endangered. With more than 60 percent of the species' populations having already been eliminated, and only 10 remaining in existence, it definitely warrants protection under the Act. Endangered status seems appropriate because of the imminent serious threats facing most populations. As stated by Folkerts (1977), "More than any other member of the genus, its future seems bleak and it needs immediate attention." Critical habitat is not being designated for the reasons discussed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for *Sarracenia rubra* ssp. *jonesii* at this time. With its history of illegal collection and the ongoing horticultural trade in pitcher plants, any increased publicity or provision of specific location information associated with critical habitat designation could result in increases of collecting pressures on the species. Many of the remaining populations, being extremely small, could be extirpated as a result. None of the remaining populations occur on lands under Federal jurisdiction; therefore, the Act's prohibition against removal and reduction to possession of endangered plants from such lands would not apply, and these populations would be completely vulnerable to collectors. Even without plant collection, increased visits to population locations stimulated by critical habitat designation could adversely affect the species through trampling of the plants and their sensitive habitat. The State agencies and private landowners involved in managing the habitat of this species have been informed of the plant's locations and of the importance of protection. Protection of the species'

habitat will be addressed through the recovery process and through the Section 7 jeopardy standard. Therefore, it would not be prudent to determine critical habitat for *Sarracenia rubra* ssp. *jonesii* at this time.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed 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.

Federal activities that could impact *Sarracenia rubra* ssp. *jonesii* in the future include, but are not limited to, the following: road construction, permits for mineral exploration, permits for placing fill in wetlands, and any other activities that do not include planning for this species' continued existence. The Service will work with the involved agencies to secure protection and proper management of *Sarracenia rubra* ssp. *jonesii* while accommodating agency activities to the extent possible.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of Section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would

apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export any endangered plant, transport it in interstate or foreign commerce in the course of commercial activity, sell or offer it for sale in interstate or foreign commerce, or remove it from areas under Federal jurisdiction and reduce it to possession. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. It is anticipated that some trade permits will be sought and issued, since this species is, to some extent, already a part of the commercial trade. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27329, Washington, D.C. 20038-7329 (202/343-4955).

On June 6, 1981, *Sarracenia rubra* sp. *jonesii* was included (as *S. jonesii*) in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The effect of this listing is that both export and import permits are required before international shipment may occur. Such shipment is strictly regulated by CITES member nations to prevent it from being detrimental to the survival of the species and cannot be allowed if it is for primarily commercial purposes. If plants are certified as artificially propagated, however, international shipment requires only export documents under CITES, and commercial shipments may be allowed.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the

authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

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Author

The primary author of this proposed rule is Ms. Nora Murdock, Asheville Field Office, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259-0321 or FTS 672-0321).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

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

PART 17—[AMENDED]

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

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Sarraceniaceae, 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					
SARRACENIACEAE—Pitcher plant family:						
<i>Sarracenia rubra</i> ssp. <i>Jonesii</i> (= <i>Sarracenia jonesii</i>).	Mountain sweet pitcher plant	U.S.A. (NC, SC)	E	339	NA	NA

Dated: September 22, 1988.

Susan Recce,

Assistant Secretary for Fish and Wildlife and
Perks.

[FR Doc. 88-22401 Filed 9-29-88; 8:45 am]

BILLING CODE 4310-55-M