

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Rule to Determine *Cycladenia Humilis* var. *Jonesii* (Jones *Cycladenia*) to be a Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines *Cycladenia humilis* var. *jonesii* (Jones *cycladenia*) to be a threatened species under the authority of the Endangered Species Act of 1973, as amended. This taxon occurs in three general areas in the Canyonlands section of southeastern Utah, in Emery, Garfield, and Grand Counties. The three populations total about 7,500 individuals, with over half on public land managed by the Bureau of Land Management, approximately 2,500 on National Park Service lands at Glen Canyon National Recreation Area and Capitol Reef National Park, and approximately 500 at one site on State of Utah land. A fourth population may still occur in Kane County, Utah, or in Mohave County, Arizona, but is known only from a collection with general location information made in 1882, before the boundary between the territories of Utah and Arizona was surveyed. The taxon grows on barren clay hills forming the steep side slopes and bases of mesas in the canyon country. The species is vulnerable due to its rarity, and is threatened by impacts from mineral and oil and gas exploration and off-road vehicle disturbance.

DATES: The effective date of this rule is June 4, 1986.

ADDRESSES: The complete file for this rule is available for public inspection, by appointment, during normal business hours of the Service's Endangered Species Staff at the following locations: 134 Union Boulevard, Fourth Floor, Lakewood, Colorado 80228; Room 2078 Administration Building, 1745 West 1700

South, Salt Lake City, Utah 84140; and Suite B-109, Independence Plaza, 529 25-½ Road, Grand Junction, Colorado 81505.

FOR FURTHER INFORMATION CONTACT:

John L. England, Salt Lake City (801/524-4430 or FTS 588-4430), or John Anderson, Grand Junction (303/241-0563 or FTS 322-0348), at the above address.

SUPPLEMENTARY INFORMATION:**Background**

Cycladenia humilis var. *jonesii* (Jones *cycladenia*) is a herbaceous perennial 4 to 6 inches (10-15 centimeters) tall, with clumps of bright green leaves and " . . . rosy flowers (that) somewhat resemble small morning-glories and have a charm that thrills the beholder" (Eastwood 1942). Alice Eastwood described the plant in 1942 as *Cycladenia jonesii* based on a collection from the San Rafael Swell (Emery County) made by Marcus E. Jones in 1914. Except for two other San Rafael Swell collections in the 1930's, this taxon was not seen again until a single plant was discovered by Dr. Stanley Welsh in 1968 in Castle Valley, northeast of Moab (Grand County), about 65 miles east of the San Rafael Swell (Welsh 1970). He and Dr. Duane Atwood later reduced the Jones *cycladenia* to varietal status (Welsh, Atwood, and Reveal 1975). During inventories in the spring of 1985, since the proposal of endangered status on January 10, 1985, about 1,000 individuals were located in Castle Valley on Bureau of Land Management (BLM) land and another 1,000 individuals about 5 miles (8 kilometers) to the northeast along Onion Creek below Fisher Mesa, also on BLM land. These plants are growing in mixed desert shrub and the lower edge of the pinyon pine and juniper community at 5,000-5,600 feet (1,500-1,700 meters) on sparsely vegetated hills derived from arkosic (containing unweathered feldspar) sandstone of the Permian Cutler Formation.

In 1979, James Harris, then a graduate student at Brigham Young University, rediscovered Jones *cycladenia* at two sites 2 miles (3 kilometers) apart in the area of the 1914 collection. The larger site, with some 2,000 plants, is on public land managed by the BLM; the other has some 500 plants on State of Utah land. This San Rafael Desert population, which is just east of the San Rafael Reef and south of Interstate 70, consists of mostly mature plants, many of which are connected by underground stems (rhizomes). Therefore, the number of separate individual plants is hard to determine but is certainly lower than the number of above-ground stems. These plants are growing on sparsely

vegetated "badland" hills, a habitat similar in aspect to the one in Castle Valley, but with fine-textured soils derived from a different formation, the Jurassic Summerville, at a slightly lower elevation (4,600 feet—1,400 meters) in the mixed desert shrub community with Mormon tea (*Ephedra torreyana*), shrubby wild-buckwheat (*Eriogonum corymbosum*), and *Enceliopsis nudicaulis*, a herbaceous perennial.

A third population was found during the 1984 field season on the Purple Hills, within the Circle Cliffs area of the Glen Canyon National Recreation Area (GCNRA), administered by the National Park Service (NPS), in Garfield County, Utah, (Welsh 1984). This population was discovered during a rare plant inventory as part of a biological baseline study for an Environmental Impact Statement on Federal tar sand leasing. This population is about 90 miles (145 kilometers) south of the San Rafael Swell population. Subsequently, inventories by Jim Holland (NPS), Steve Hedges (BLM), and John Anderson of the Fish and Wildlife Service in the spring of 1985 located three other sites of the Jones *cycladenia* with a total of 3,000 plants near the Purple Hills over an area about 5 miles (8 kilometers) long. These sites occur on sparsely vegetated "badland" hills and steep side slopes of mesas, as do the two previously discussed more northern populations, but at a slightly higher elevation (5,600-6,600 feet—1,700-2,000 meters), on another formation, the Triassic Chinle, and with the primarily herbaceous perennial plant associates, *Brickellia oblongifolia* and *Oenothera brachycarpa*. A fourth population from further south in Utah or from northern Arizona (the Pipe Spring area in Mohave County, Arizona and Kane County, Utah) may remain; it is known only from an 1882 collection by Andrew Siler, but the locality information is indefinite and the site has never been relocated (Holmgren 1984).

Cycladenia humilis var. *jonesii* is the only member of its genus in the Intermountain West; the genus consists of only the one species with its other varieties restricted to California. Because the Jones *cycladenia* has a disjunct distribution pattern in three localized areas over 100 miles apart and its nearest relatives are in California, it is believed to be a Tertiary relict. This taxon thus may be ill adapted to the present-day climatic regime of the Intermountain West, increasing its vulnerability.

The Canyonlands section of Utah has more endemic plants than any other portion of the State, about 70 taxa. In

addition to the *Cycladenia*, about 13 of these taxa are candidates for possible listing under the Endangered Species Act (48 FR 53639). The Canyonlands are considered relatively ancient floristically, having "been less affected by the special conditions of recent changing [geological] epochs" (Holmgren 1972, p. 103).

Threats to the Jones cycladenia include habitat disturbance from exploration for oil and gas, tar sands, and minerals (primarily uranium), and from recreational and other off-road vehicle (ORV) use.

Section 12 of the Endangered Species Act of 1973 (Act) directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of this report as a petition within the context of section 4(c)(2) of the Act (petition acceptance is now governed by section 4(b)(3) of the Act, as amended), and of its intention thereby to review the status of the plant taxa named within. On June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant taxa to be endangered species pursuant to section 4 of the Act. This list was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, **Federal Register** notice. *Cycladenia humilis* var. *jonesii* was included (as *Cycladenia jonesii*) in the July, 1975, notice (40 FR 27880) and the June, 1976, proposal (41 FR 24527). General comments received in relation to the 1976 proposal are summarized in an April 26, 1978, **Federal Register** publication (43 FR 17909).

The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withdrawn, but established a 1-year grace period for proposals that were already 2 years old. On December 10, 1979, the Service published a notice of the withdrawal of the still-applicable portions of the June, 1976, proposal, along with other proposals that had expired. On December 15, 1980, the Service published a new notice of review for plants in the **Federal Register** (45 FR 82480), which included *Cycladenia humilis* var. *jonesii* as a category-1 species, indicating that the Service then possessed substantial

endangered or threatened status. No comments on this taxon were received in response to the 1980 notice. On February 15, 1983, the Service published a notice in the **Federal Register** (48 FR 6752) of its prior finding that the petitioned action on this taxon may be warranted, in accordance with section 4(b)(3)(A) of the Act as amended in 1982.

On October 13, 1983, and again on October 12, 1984, the petition finding was made that listing the Jones cycladenia was warranted but precluded by other listing actions, in accordance with section 4(b)(3)(B)(iii) of the Act. Such a finding requires a recycling of the petition, pursuant to section 4(b)(3)(C)(i) of the Act and another finding becomes due within 12 months. The Service published a proposed rule, constituting a finding that the petitioned section was warranted, to list *Cycladenia humilis* var. *jonesii* as an endangered species in the January 10, 1985, **Federal Register** (50 FR 1247).

Endangered status was proposed for the Jones cycladenia based upon then-current status information, which indicated that the species comprised about 2,900 individuals in three populations. The Service's Grand Junction Field Office obtained additional status information after the publication of the proposed rule indicating the existence of two additional sites, one each in Grand County and Garfield County, and 7,500 individuals altogether. The Service, after evaluating the threats and the biological status of *Cycladenia humilis* var. *jonesii*, has determined that the species should be listed as threatened, rather than endangered as was proposed in the January 10, 1985, **Federal Register**.

Summary of Comments and Recommendations

In the January 10, 1985, proposed rule (50 FR 1247) 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 that invited general public comment were published in the *Salt Lake Tribune* and *Deseret News* on February 12, 1985. Seven comments were received and are discussed below. No public hearing was requested or held.

The National Park Service supported the listing and reported an inventory that located three additional sites in the

Canyon (GCNRA), Deer Point (BLM), and an adjacent site in Capitol Reef National Park (CRNP). The Park Service enumerated threats to the Purple Hills sites including nine oil and gas leases and five lease applications around the Purple Hills site within GCNRA, a proposal to develop the Circle Cliffs Special Tar Sands Area, ORV activity associated with uranium exploration, and the possibility of increased visitor access and recreational ORV activity associated with new road construction. The Middle Moody Canyon site is within the park natural zone. It and the CRNP site are protected from energy developments. The Park Service also noted that all of the Purple Hills sites are within grazing allotments. Recently Service and NPS personnel visited the Purple Hills sites and observed the new sites and impacts to them. The Service agrees with the NPS comments.

The Bureau of Land Management submitted a comment in which it identified no threats to the BLM site in the Purple Hills. However, since the site is on the uranium-bearing Chinle Formation and the area is open to mining claims, there is a potential threat from uranium exploration. Although Kirkwood Oil and Gas Company has withdrawn its plan of operation for tar sand development, the threat of future tar sand development in the Circle Cliffs Special Tar Sands area remains, as noted by NPS. The BLM also noted that the Mohave County, Arizona, site was within Pipe Spring National Monument on NPS land, not public domain land. However, the locality given for this collection is vague, and it could have been made anywhere in the vicinity of Pipe Spring National Monument, which is only 40 acres in size. There is potential habitat in this area on the slopes and foothills of the Chinle Formation, below the Vermillion Cliffs between Cane Beds, Arizona, and Kanab, Utah.

The Smithsonian Institution and the State of Utah supported the listing; the State agreed there is no need to designate critical habitat. The Utah Native Plant Society also supported the listing and expressed the hope that listing would stimulate protection for the Jones cycladenia.

A comment from two individuals supported the listing. They mentioned that a graded road bisects the larger S Rafael site. This road has also been observed by the Service and is in an area of uranium exploration.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Cycladenia humilis* var. *jonesii* 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 promulgated to implement the listing provisions of the Act (50 CFR Part 424) were followed. A species may be determined to be an endangered or a threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Cycladenia humilis* Benth. var. *jonesii* (Eastwood) Welsh & Atwood (Jones cycladenia) are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Off-road vehicle use for recreation and exploration for minerals, tar sands, and oil and gas is impacting the habitat of *Cycladenia humilis* var. *jonesii*. The San Rafael Swell population is crisscrossed with vehicle tracks and pockmarked from uranium exploration (Anderson 1981, Hreha and Greenwood 1980). This habitat has also been staked with mining claims. Although none of the claims have been developed and most may be simply speculative, the danger of future mining for uranium remains a possibility. In addition, annual assessment work is required to maintain a valid claim. This assessment work causes continual disturbance of the habitat. Vehicle tracks and mining claims are also evident at the Purple Hills population (Welsh pers. comm.).

Oil and gas leases have been issued either on or immediately adjacent to all known extant population sites. There is active exploratory drilling for oil and gas adjacent to the Castle Valley site. The BLM site at the Purple Hills is within the Circle Cliffs Special Tar Sands Area, but no development is planned at present. Off-road vehicle use at the Casile Valley and Fisher Mesa (Onion Creek) sites has denuded strips through the population.

B. Overutilization for commercial, recreational, scientific, or educational purposes. Not known.

C. Disease or predation. All populations are within grazing allotments, but the probability of serious damage is low.

D. The inadequacy of existing regulatory mechanisms. No Federal or State laws directly protect *Cycladenia humilis* var. *jonesii*. Although the BLM is aware of this taxon, it is not currently

obligated to regulate activities so as to provide for the conservation of the *Cycladenia*, and the sites on BLM land and the Purple Hills site on GCNRA are under multiple-use management.

E. Other natural or manmade factors affecting its continued existence. The arid climate and harsh soils of the habitat of the Jones cycladenia make its ecosystem a fragile one, easily degraded by surface disturbances, and slow to recover its natural condition. As an apparent relict species, it may not be well-adapted to present-day climatic conditions in the Intermountain region and may be especially susceptible to habitat disturbance through reduced ability for seedling establishment. Its low numbers in only three known extant populations increase its vulnerability to significant loss from a single inadvertent catastrophic disturbance.

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 make this rule final. Based on this evaluation, the preferred action is to list *Cycladenia humilis* var. *jonesii* as a threatened species. The Jones cycladenia was proposed as endangered based on its rarity and evidence of threats. In the last year, new sites for two of the populations have been found: At Purple Hills and Castle Valley. These new findings have raised the total population estimate to 7,500 individuals from the 2,900 estimated in the proposal. Most of the new sites face the same threats and impacts as the others, and the Jones cycladenia remains a vulnerable species. Because of the increased numbers but continuing threats, threatened status is more appropriate than either endangered status or no action. Critical habitat is not being determined for this species for the reasons detailed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for *Cycladenia humilis* var. *jonesii* at this time. The designation of critical habitat is not considered to be prudent when such designation would not be of benefit to the taxon involved (50 CFR 424.12). The Service finds that designation of critical habitat is not prudent because the species would derive no additional benefits from the critical habitat designation that do not already arise from listing and that

would outweigh the possible negative effects of such designation. Listing highlights the rarity of a plant and can lead to vandalism or collecting as well as positive attention. Publication of critical habitat descriptions and maps could be detrimental to the species by singling out the location of each occurrence, thus increasing risk to the species. The plant is attractive and conspicuous, and could be taken despite the Federal collecting prohibition. Also, the BLM, NPS, and the State are already aware of the occurrences on their land.

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 by 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. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 and are now under revision (see proposal at 48 FR 29990: June 29, 1983). 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 affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. Possible effects from BLM and NPS activities are expected to be limited. The two agencies funded some of the field surveys on this taxon and are aware of it for planning purposes. Management by these agencies would be affected. Restricting traffic to some existing roads and fencing some areas might be required, as well as special care in administering mining claims and oil and gas and tar sands leases so that

the taxon is accommodated in exploration or any development activity.

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 *Cycladenia humilis* var. *jonesii*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, 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 of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions can 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. No such trade in *Cycladenia humilis* var. *jonesii* is known. It is anticipated that few trade permits would ever be sought or issued since the species is not common in cultivation or in the wild.

Section 9(a)(2)(B) of the Act, as amended in 1982, prohibits the removal and reduction to possession of endangered plant species from areas under Federal jurisdiction. Regulations implementing this prohibition were published on September 30, 1985 (50 FR 39681). The protection is also extended to threatened plant species under 50 CFR 17.71. These regulations also provide for the issuance of permits for exceptions to this prohibition under 50 CFR 17.72. The Jones cycladenia occurs in large part on land managed by the BLM and NPS. It is likely that few collecting permits for the Jones cycladenia will be requested, as the plant is not common in the wild and has not been of interest to collectors.

Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1903).

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).

Literature Cited

- Anderson, J. 1981. Unpublished trip report—field trip with Larry England, Staff Botanist, Salt Lake City Area Office, U.S. Fish and Wildlife Service, Denver, Colorado.
- Eastwood, A. 1942. New western plants IV. Leaflets of Western Botany 3:157-160.
- Holmgren, A.H., L.M. Shultz, and J.S. Shultz. 1977. Unpublished report on rare plant species for the Bureau of Land Management, Moab, Utah, District (Grand Resource Area), Utah State University, Logan, Utah.
- Holmgren, N.H. 1972. Plant Geography of the Intermountain Region, pp. 77-161 In A. Cronquist, A.H. Holmgren, N.H. Holmgren, and J.L. Reveal, Intermountain Flora, Vol. 1. Hafner Publishing Co., New York.
- Holmgren, N.H. 1984. *Cycladenia*, pp. 30-31 In A. Cronquist, A.H. Holmgren, N.H. Holmgren, J.L. Reveal, and P.K. Holmgren, Intermountain Flora, Vol. 4. New York Botanical Garden, Bronx, New York.
- Hreha, A.M. and L.R. Greenwood. 1980. Unpublished field report on *Cycladenia* on the San Rafael Swell. Meiji Resource Consultants, Layton, Utah.

Welsh, S.L. 1970. New and unusual plants from Utah. *Great Basin Naturalist* 30:16-32.

Welsh, S.L. 1978. Unpublished status report—*Cycladenia humilis* var. *jonesii*. U.S. Fish and Wildlife Service, Denver, Colorado.

Welsh, S.L. 1984. Flora of the Glen Canyon National Recreation Area, pp. 19-20. Glen Canyon National Recreation Area Research Management Team, Page, Arizona.

Welsh, S.L., N.D. Atwood, and J.L. Reveal. 1975. Endangered, threatened, extinct, endemic, and rare or restricted Utah vascular plants. *Great Basin Naturalist* 35:327-376.

Authors

The author of this rule is John Anderson, Botanist, Grand Junction Field Office, at the address given above. John L. England, Botanist, Salt Lake City Field Office, at the address given above, served as editor.

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

PART 17—[AMENDED]

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

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

Authority: Pub. L. 93-205, 87 Stat. 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.*).

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Apocynaceae, 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					
Apocynaceae—Dogbane family:						
<i>Cycladenia humilis</i> var. <i>jonesii</i>	Jones cycladenia	U.S.A. (AZ, UT)	T		NA	NA

Dated: April 12, 1986.
P. Daniel Smith,
*Deputy Assistant Secretary for Fish and
 Wildlife and Parks.*
 [FR Doc. 86-9983 Filed 5-2-86; 8:45 am]
BILLING CODE 4310-55-M