

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of *Carex specuicola* to be a Threatened Species With Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines a plant, *Carex specuicola*, to be a threatened species under the authority contained in the Endangered Species Act of 1937 (Act), as amended. Critical habitat is being designated. This plant occurs in Coconino County, Arizona, on the Navajo Indian Reservation. The three known populations and their habitat are currently threatened with impacts from livestock grazing and water development. This action implements the protection provided by the Act.

DATES: The effective date of this rule is June 7, 1985.

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, Region 2, 500 Gold Avenue, SW., Room 4000, Albuquerque, New Mexico.

FOR FURTHER INFORMATION CONTACT: Peggy Olwell, Botanist, Region 2, Office of Endangered Species, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766-3972 or FTS 474-3972).

SUPPLEMENTARY INFORMATION:**Background**

Carex specuicola is a perennial member of the family Cyperaceae (sedge family). This species was first collected by J.T. Howell in 1948, and the description was published by him in 1949. *Carex specuicola* has a triangular stem 25-40 centimeters (10-16 inches) high, which extends from an elongate, slender rhizome (underground stem). The leaves are pale green, 1-2 millimeters (.04-.08 inches) wide, 12-20 centimeters (4.7-7.9 inches) long, and clustered near the base. The flowers are in 2-4 groups or spikes. The terminal spike has both male and female flowers, with the female flowers above the male flowers. The lateral spikes contain only female flowers. The flowers are reduced and not showy; they consist of small, green-brown, scale-like parts 2-3 millimeters (.08-.12 inches) long and 1-1.5 millimeters (.04-.06 inches) wide. Flowering and fruit set occur from spring

to summer, but most of the reproduction appears to be vegetative.

Carex specuicola is known only from sites near Inscription House Ruin on the Navajo Indian Reservation in Coconino County, Arizona. The plants are found around three shady seep-springs. The vegetation is pinyon-juniper woodland at elevations of 1,740-1,824 meters (5,707-5,983 feet), with an average annual precipitation of approximately 19.4 centimeters (7.6 inches). Within its habitat *Carex* is locally common, growing in dense clumps from the rhizomes. Each population covers an area of less than 200 square meters (2,152 square feet) along the outflow from its respective seep-spring. In 1980, all plants were healthy and vigorous (Phillips *et al.*, 1981).

Federal actions involving *Carex specuicola* 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. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the context section 4(c)(2), now section 4(b)(3)(A), of the Act and of its intention thereby to review the status of those plants. On June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to Section 4 of the Act. *Carex specuicola* was included in the Smithsonian petition and the 1976 proposal. General comments received in relation to the 1976 proposal were summarized in an April 26, 1978, **Federal Register** publication (43 FR 7909).

The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to proposals already over 2 years old. In the December 10, 1979, **Federal Register** (44 FR 70796), the Service published a notice of withdrawal of the June 16, 1976, proposal, along with four other proposals that had expired. *Carex specuicola* was included as a category-1 species in a revised list of plants under review for threatened or endangered classification published in the December 15, 1980, **Federal Register** (45 FR 82480). Category 1 comprises taxa for which the Service presently has sufficient biological information to support their being proposed to be listed as endangered or threatened species.

The Endangered Species Act Amendments of 1982 required that all petitions pending as of October 13, 1982, be treated as having been newly submitted on that date. The species listed in the December 15, 1980, notice of review were considered to be petitioned, and the deadline for a finding on those species, including *Carex specuicola*, was October 13, 1983.

On October 13, 1983, the petition finding was made that listing *Carex specuicola* was warranted but precluded by other pending 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. A proposed rule published April 11, 1984 (49 FR 14406), constituted the next required finding that the petitioned action was warranted in accordance with section 4(b)(3)(B)(ii) of the Act.

Summary of Comments and Recommendations

In the April 11, 1984, proposed rule (49 FR 14406) 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. A newspaper notice was published in the Flagstaff, Arizona, *Arizona Daily Sun* on May 9, 1984, which invited general public comment. Six comments were received, one each from the U.S. Forest Service, the Bureau of Indian Affairs (BIA), the Arizona State Agriculture and Horticulture Department, the Arizona Wildlife Federation, the International Union for Conservation of Nature and Natural Resources (IUCN), and a professional botanist at the University of Arizona. No public hearing was requested or held.

None of the comments contradicted the Service's findings of rarity or need of protection for *Carex specuicola*. Two commenters, the Forest Service and the BIA, however, did suggest additional field surveys be conducted to locate more plants. The Service agrees that the discovery of any currently unknown populations would be very beneficial, but these three populations were the only ones located in past survey work. Three commenters, the Arizona State Agriculture and Horticulture Department, the Forest Service, and the Arizona Wildlife Federation, suggested fencing be used to exclude livestock from the three springs where the species occurs and that water for livestock then

be piped outside the fenced enclosures. The Service finds that these measures may help protect the species, and watering sights are now found away from the *Carex* locations. The Arizona State Agriculture and Horticulture Department suggested not posting fenced areas or mapping plant habitat as these activities could provide locality information to unscrupulous collectors. Because *Carex specuicola* is inconspicuous and not subject to commercial or other trade, the Service does not believe posting fenced areas or mapping habitat will substantially increase the threats to the species. The Arizona Wildlife Federation suggested a monitoring system be established to ascertain population status, and the BIA suggested that in any monitoring system the effect of erosion be considered along with other factors that might jeopardize the species. The Service agrees monitoring will be needed to ensure maintenance of the species.

The BIA described grazing and water use in the areas occupied by *Carex specuicola*. In regard to grazing, the BIA stated there is not record of the number of livestock grazing in the areas prior to 1943. Carrying capacities were established in 1943 and livestock numbers have since remained constant, being regulated by permit. Grazing permits are renewed automatically but BIA action is required to cancel or modify them. With regard to water use, the BIA stated that two of the three seep-springs with *Carex specuicola* populations are presently used to water livestock. At one, livestock drink water caught in a natural basin downhill from the spring. At the other, a stone and mortar diversion has been built to direct water from the spring to a storage structure. Water from the storage structure flows through a pipe to a livestock drinker located away from the area occupied by *Carex specuicola*. These structures were built in the 1930's. Application for any additional livestock water development would have to be approved by the BIA, which states that it would review any proposal for water development with protection of *Carex specuicola* as a priority.

Neither the professional botanist at The University of Arizona nor the IUCN had any substantive comments on the proposal.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Carex specuicola* 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 threatened species due to one or more of the five factors described in section 4(a)(1) of the Act. These factors and their application to *Carex specuicola* J.T. Howell are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* *Carex specuicola* has only been found at its original locality around three seep-springs in the vicinity of Inscription House Ruin on the Navajo Indian Reservation. This habitat is vulnerable to changes resulting from water development for livestock. Heavy trampling in conjunction with livestock watering already occurs around two of the three seep-springs. An increase in the number of livestock could possibly damage the *Carex* populations. Severe impacts to any one of the three populations would have a substantial detrimental effect on the species (Phillips *et al.*, 1981).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Commercial or other trade in this plant is not known to exist (Phillips *et al.*, 1981).

C. *Disease or predation.* Many species within the genus *Carex* are palatable to livestock and wildlife. Two of the three *Carex* sites are used as livestock water sources and grazing areas (mainly for sheep), especially the one at Inscription House Ruin Spring. While not expected, an increase in grazing pressure could be harmful to the species, and should be avoided until the grazing impact is thoroughly assessed (Phillips *et al.*, 1981).

D. *The inadequacy of existing regulatory mechanisms.* *Carex specuicola* is not protected by Federal law or the Arizona Native Plant Law. A permit is needed, however, from the Navajo Tribe for plant study or collection on the Reservation.

E. *Other natural or manmade factors affecting its continued existence.* The specific habitat requirements of *Carex specuicola*, the limited distribution, and small number of populations (3) make the existence of this species especially precarious in the event of habitat disturbance or any activity that results in the loss of a significant number of individuals.

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 *Carex specuicola* as threatened with critical habitat. Threatened status seems appropriate because of the restricted distribution of the species and the small size of populations which, although they are vigorous and reproducing well, are threatened by livestock grazing, habitat deterioration due to water development, and livestock trampling of areas around water sources. Also, the only protection for this species is a Navajo Tribal Law prohibiting study or collection of this species without a permit. No other laws, State or Federal, provide protection to this species.

Critical Habitat

Critical habitat, as defined by section 3 of the Act, 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) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination 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 concurrently with the determination that a species is endangered or threatened. Critical habitat is being designated for *Carex specuicola* to include the entire areas occupied by the three known populations of the plant. The locations are on the Navajo Indian Reservation in Coconino County, Arizona, and are 40 x 5 meter (about 200 square meters) rectangular areas with their long axes in the direction of seep-spring flow, centered on the following points: (1) latitude 36°39'53" N, longitude 110°47'18" W; (2) latitude 36°40'07" N, longitude 110°47'55" W; and (3) latitude 36°40'18" N, longitude 110°48'15" W. The total area designated comprises about 600 square meters (about 0.15 acres), and contains all habitat presently known to be occupied by the species. Constituent elements are moist sandy to silty soils at shady seep-springs within the Navajo Sandstone Formation (Phillips *et al.*, 1981).

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) that may adversely modify such habitat or may

be affected by such designation. The activities that may potentially affect the critical habitat of *Carex specuicola* or be affected by its designation are spring development and grazing. Spring development could affect the free-flowing seep-springs upon which the species depends. Livestock trampling has contributed to some soil erosion on the steeper sandy soil sites at the Inscription House Ruin Spring site. Withdrawal of the critical habitat area from grazing (representing less than one Animal Unit Month and no grazing fees) or fencing may be warranted to protect the critical habitat from soil erosion or trampling. It is not expected that use of the seep-spring water for livestock watering will affect or be affected by the critical habitat designation because the watering sites are located away from the area where *Carex specuicola* is found. There is a coal mining operation about ten miles away from the critical habitat, but it is located in a different geologic formation and has a different water source than the critical habitat's water source. Small farms in the area may use excess water runoff, but are not expected to affect or be affected by the critical habitat designation. The BIA has informed the Service that it plans to monitor the critical habitat of *Carex specuicola* as part of its plans to develop an informal monitoring system for the resources under its jurisdiction. Currently, no plans for water development, farm use, or additional grazing permit applications are known that would involve Federal funds or permits for the area affected by the critical habitat designation.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service has considered the critical habitat designation in light of relevant additional information obtained during the public comment period and concludes that no significant economic impacts are expected as a result of the designation and no adjustments to the area proposed as critical habitat are warranted.

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 taking prohibitions 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 provisions 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. With respect to *Carex specuicola*, if an adverse effect pertaining to spring development is expected and BIA funding or authorization is involved, the BIA must enter into consultation with the Service prior to issuance of a BIA permit. Permits for grazing are also issued by BIA.

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 *Carex specuicola*, 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. International and interstate commercial trade in *Carex specuicola* 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.

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. Section 4(d) allows for the provision of such protection to threatened species through regulations. This new protection will apply to *Carex specuicola* when revised regulations are promulgated. Permits for exceptions to this prohibition are available through sections 10(a) and 4(d) of the Act, until revised regulations are promulgated to incorporate the 1982 amendments. Proposed regulations implementing this new prohibition were published on July 8, 1983 (48 FR 31417), and it is anticipated that these will be made final following public comment. All three populations of *Carex specuicola* are on the Navajo Indian Reservation. It is anticipated that few collection permits for the species will ever be requested. 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 by 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).

Regulatory Flexibility Act and Executive Order 12291

The Department of the Interior has determined that designation of critical habitat for this species will not constitute a major action under Executive Order 12291 and certifies that this designation will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

The critical habitat designation as defined in the proposed rule for *Carex specuicola* did not bring forth economic or other impacts to warrant consideration of adjusting the critical habitat designation. The critical habitat area is located entirely on Indian land within the Navajo Indian reservation in Coconino County, Arizona. The Navajo Indian Tribe owns and manages the critical habitat area. The BIA also has

some permitting and management authority over the critical habitat area. Based on BIA's current management and planned monitoring of the critical habitat area, it is not expected that significant economic impacts will result from the designation of critical habitat on the Navajo Indian Reservation. These determinations are based on a Determination of Effects that is available at the Regional Office, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103.

Literature Cited

Howell, J.T. 1949. Three new Arizona plants. Leaflets of Western Botany 5(9):148.
 Phillips, A.M., B.G. Phillips, L.T. Green, J. Mazzonei, and N. Brian. 1981. Status report: *Carex specuicola* J.T. Howell. Office of Endangered Species, U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 12 pp.

Authors

The authors of this final rule are Charles McDonald and Peggy Olwell, Office of Endangered Species, U.S. Fish and Wildlife Service, Department of the Interior, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766-3972 or FTS 474-3972). The editor was E. LaVerne Smith, Office of Endangered Species,

Washington, D.C. 20240 (703/235-1975 or FTS 235-1975). Status information and a preliminary listing package were provided by Dr. A.M. Phillips, Dr. B.G. Phillips, L.T. Green, J. Mazzonei, and N. Brian, Museum of Northern Arizona, Route 4, Box 720, Flagstaff, Arizona 86001.

List of Subjects in 50 CFR Part 17

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

Regulations 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 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. 97-304, 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 Cyperaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Cyperaceae—Sedge family:						
<i>Carex specuicola</i>	None	U.S.A. (AZ)	T	178	17.98(a)	NA.

3. Amend § 17.96(a) by adding the critical habitat of *Carex specuicola* as follows: The position of this entry under § 17.96(a) will follow the same sequence as the species occurs in § 17.12.

§ 17.96 Critical habitat—plants.

(a) * * *

Cyperaceae—*Carex specuicola*

Arizona: Coconino County; Navajo Indian Reservation. A 40 x 5 meter rectangular area,

with its long axis in the direction of seep-spring flow, around each of the following points: (1) Latitude 36°39'53" N, longitude 110°47'18" W; (2) latitude 36°40'07" N, longitude 110°47'55" W; and (3) latitude 36°40'18" N, longitude 110°48'15" W. Primary constituent elements include moist sandy to silty soils at shady seep-springs within the Navajo Sandstone Formation.

