

SUMMARY: The Service determines a plant, *Astragalus humillimus* (Mancos milk-vetch), to be an endangered species under the authority contained in the Endangered Species Act of 1973 (Act), as amended. *Astragalus humillimus* is presently known from four populations west of Waterflow, San Juan County, New Mexico. The plant was collected in Montezuma County, Colorado, in 1875; however, the species has not been re-collected there since that time. This species is vulnerable due to a low number of plants, restricted distribution, a low tolerance for disturbance, and close proximity to powerline corridors, roads, and oil wells. This determination of *Astragalus humillimus* to be an endangered species implements the protection provided by the Act.

DATE: The effective date of this rule is July 29, 1985.

ADDRESSES: The complete file for this rule is available for inspection during normal business hours, by appointment, at the Service's Regional Office of Endangered Species, 500 Gold Avenue SW., Room 4000, Albuquerque, New Mexico 87103.

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

SUPPLEMENTARY INFORMATION:

Background

Astragalus humillimus Gray *ex* Brandegee is a member of the Fabaceae (pea family). The species was collected once by Brandegee in 1875 and was described by Asa Gray in 1876. Kuntze named this plant *Tragacantha humillima* in 1891. Rydberg (1905) changed the name to *Phaca humillima*, and Barneby recognized it in the genus *Astragalus* in 1964 (Barneby, 1964; Knight, 1981).

Astragalus humillimus has short stems measuring 0.5 to 1 centimeter tall (0.2-0.4 inch). It is a perennial species with compound leaves (having many leaflets) measuring 8 to 15 millimeters long (0.3-0.6 inch). The leaflets are pubescent, 0.7 to 2 millimeters (0.02-0.08 inch) long, light green, and oval. The flowers are lavender with white veins, are about 1 centimeter (0.4 inch) long, and have a sweet pungent smell. The fruit is an oblong pod about 5 millimeters (0.2 inch) long. This species grows in low, tufted mats 31 to 45 centimeters (12-18 inches) in diameter. These clumps are often covered with butterflies, and *Vanessa cardui* (painted lady butterfly) has been identified as a

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Final Rule To Determine *Astragalus Humillimus* To Be Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

pollinator of *Astragalus humillimus* (Paul Knight, New Mexico Natural Resources Department, pers. comm., 1983). Flowering occurs only for a short time, between late April and early May. Most fruits ripen by early June.

Astragalus humillimus is known only from a ridge west of Waterflow, New Mexico. The four populations occur on Bureau of Land Management (BLM) and Navajo Indian Reservation lands and contain approximately 7,000 plants. The plants are restricted to Point Lookout and Cliff House sandstones, tan Cretaceous sandstones of the Mesa Verde series, at an elevation of 1,545 to 1,645 meters (5,068–5,396 feet). The *Astragalus* forms rings in depressed pockets of sandy soil. Two of the populations are on Point Lookout sandstone mesas, one is on island outcrops of Point Lookout sandstone, and the other appears to occur on Cliff House sandstone (O'Sullivan and Beikman, 1963). Dominant associated plants are *Oryzopsis hymenoides*, *Gutierrezia sarothrae*, *Yucca angustissima*, and *Artemisia tridentata*. *Astragalus humillimus* occurs in the vicinity of utility corridors, drilling pads, oil wells, pipelines, and roads; additional construction and maintenance of these could destroy or severely affect the populations.

Astragalus humillimus was first collected in 1875 in Montezuma County, Colorado, but no plants have ever been relocated at the type locality. The first Federal action involving *Astragalus humillimus* was on June 18, 1976, when the Service published a proposed rule in the *Federal Register* (41 FR 24524) to determine approximately 1,700 vascular plant species to be endangered pursuant to section 4 of the Act. *Astragalus humillimus* was included in the June 16, 1976, proposal. General comments received in relation to the 1976 proposal were summarized in the April 26, 1978, *Federal Register* (43 FR 17910).

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. On December 10, 1979, the Service published a notice of withdrawal of the June 16, 1976, proposal, along with four other proposals which had expired (44 FR 70796).

Astragalus humillimus was included as a category-1 species in a list of plants under review for threatened or endangered classification, published in the December 15, 1980, *Federal Register* (45 FR 82480) plant notice of review. Category 1 comprises taxa for which the Service presently has sufficient biological information to support the

biological appropriateness of 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, plant notice of review were considered to have been petitioned, and the deadline for a finding on those species, including *Astragalus humillimus*, was October 13, 1983.

On October 13, 1983, the petition finding was made that listing *Astragalus humillimus* was warranted but precluded by other pending listing actions, in accordance with section 4(b)(3)(B)(iii) of the Act; notification of the finding was published in the January 20, 1984, *Federal Register* (49 FR 2485). Such a finding requires a recycling of the petition, pursuant to section 4(b)(3)(C)(i) of the Act. The Service published a proposed rule to list *Astragalus humillimus* as an endangered species on June 28, 1984 (49 FR 26610). This proposed rule constituted the finding that the petitioned action was warranted and proposed to implement the action in accordance with section 4(b)(3)(B)(ii) of the Act.

Summary of Comments and Recommendations

In the June 28, 1984, proposed rule (49 FR 26610) 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 *Farmington Daily Times* on July 24, 1984, which invited general public comment. Six comments were received and are discussed below. No public hearing was requested or held.

The international Union for Conservation of Nature and Natural Resources had no specific comments on *Astragalus humillimus*, but supported the proposal. The National Park Service stated that it had no comments since the species does not occur on its lands.

The San Juan County Commission opposed the listing because of the belief that it will cause "additional complications in completing environmental impact assessments for economic development projects" and because it is "non-beneficial vegetation for sheep and wildlife grazing, and . . . it would be more beneficial if it were supplanted by more nutritious and palatable varieties of plants." The

Service responds that the determination to list *Astragalus humillimus* was made solely on the basis of the best scientific and commercial data available and not on the basis of whether the plant is beneficial forage for sheep and wildlife nor on the basis of whether the plant listing may cause complications for development.

The BLM had no objection to the listing. However, it did state that the listing "may cause a conflict between its [*Astragalus humillimus*] protection and programs currently authorized by the Bureau of Land Management (BLM)," specifically "rights-of-way for transmission line and leases for the development of oil and gas and other minerals." The BLM stated that care will have to be taken to consider the species and recommended that it and the Service work closely in "devising species protection measures, authorizing resource development and managing previously authorized land uses." The Service agrees with BLM's comments. The BLM also stated that there is a small population of the Mancos milk-vetch on BLM-administered lands. This information has been incorporated into the final rule.

The Bureau of Indian Affairs (BLA) raised a number of issues concerning surveys, habitat, and managing agency jurisdiction, and concluded "that too little information has been provided to warrant supporting this action at this time" and suggested that the Service conduct more extensive surveys of the species and its habitat. Considering the low number of plants and the easy accessibility to them it would be detrimental to the species to publish specific locality data. Extensive surveys by helicopter and ground have been conducted by Betty Kramp and Paul Knight (New Mexico Natural Resources Department), Rupert Barneby (New York Botanical Garden), Stanley Welsh (Brigham Young University), and William Weber (University of Colorado). The Service believes that sufficient information was obtained from these surveys to warrant listing the species. Locality data and management information will be provided to the Bureau of Indian Affairs.

In an October 18, 1984, telephone conversation with Mark Porter of Ecosphere Environmental Services, the Service was informed of a new population of approximately 100 plants. The population occurs 10.5 kilometers (6.5 miles) northwest of the northernmost previously known population and extends about 90 meters (300 feet) along a south-facing cliff. This population is on Navajo Indian

Reservation land and the new information has been incorporated into the final rule.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Astragalus humillimus* 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 promulgated to implement the listing provisions of the Act (to be codified at 50 CFR Part 424; 49 FR 38900, October 1, 1984) 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). These factors and their application to *Astragalus humillimus* Gray *ex* Brandege (Mancos milk-vetch) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* *Astragalus humillimus* was collected in 1875 in Montezuma County, Colorado, near Mancos Canyon; however, it has not been collected there since 1875. Rupert O. Barneby, an authority on *Astragalus*, has searched for the species in the Four Corners area and was unable to locate the population at the type locality or any other populations of the plant. William C. Weber and S.L. Welsh also conducted extensive searches for this species (Knight, 1981). The species had not been seen or collected until Betty Kramp collected it on the Hogback, area west of Waterflow, New Mexico, in 1980. Paul Knight surveyed similar habitat from Mancos Canyon, Colorado, south to the southern end of the Hogback. He discovered two more populations north of Kramp's population. The plant is restricted to the Point Lookout and Cliff House sandstones, although it is not known what chemical or physical properties of these substrates the species is responding to (Paul Knight, New Mexico Natural Resources Dept., pers. comm., 1983).

Presently, *Astragalus humillimus* occurs along a 10-mile section of the Hogback. The northernmost population consists of approximately 100 plants and extends along a south-facing cliff on Navajo Indian Reservation land (Mark Porter, Ecosphere Environmental Services, pers. comm., 1984).

The second and largest population with approximately 5,000 plants is located on an extensive mesa top of Point Lookout sandstone in an area being actively explored and drilled for

energy-related minerals. The estimated area of this population is approximately 8.5 hectares (21 acres). The Navajo Indian Tribe owns the land and the surface rights to it; the leasable mineral rights are privately owned. The *Astragalus humillimus* population is situated in an oil field and is flanked on three sides by active oil wells. The number of roads, oil wells, and pipelines is increasing. The entire area is dissected by an unorganized assemblage of roads associated with the oil development.

A third population occurs on the west side of the Hogback about 2 miles south of the second population. There are approximately 1,000 plants scattered throughout this population, which is situated on island outcrops of Point Lookout sandstone. This population is bisected by the Glen Canyon-Shiprock 230 kV and the Curicanti-Shiprock 230 kV transmission lines, which were constructed in 1962 and 1963, respectively. The U.S. Bureau of Reclamation contracted the construction of both lines and transferred ownership, operation, and maintenance responsibilities to Western Area Power Administration (WAPA) in 1977 when the Department of Energy was organized (Gabiola, WAPA, pers. comm., 1983).

During construction of these two transmission lines, the National Environmental Policy Act (NEPA) was not in effect, and impacts to the environment were mitigated only as deemed prudent during construction (Gabiola, WAPA, pers. comm., 1983). *Astragalus humillimus* is a very localized species and does not tolerate disturbance well. The land directly under the powerline towers was extensively disturbed during the original construction, and the plant has not repopulated the disturbed areas of suitable habitat during the past 20 years.

The plants underneath the powerline have been driven over by either maintenance vehicles or off-road recreational vehicles. The damage caused by the vehicles is not yet extensive, but could become so in the future. An upgrading of the transmission line is scheduled to be in service by 1987. This would involve the addition of two more legs for each tower along the line and reconducting of the entire line. Work will probably begin in 1985 (McBride, WAPA, pers. comm., 1983). The Western Area Power Administration is aware of the presence of *Astragalus humillimus* in the right-of-way and is considering the species in its planning process.

Some of the land upon which the third population occurs is owned by the Navajo Indian Tribe and the remainder

is public land administered by BLM. The BIA is the surface managing agency on Indian lands. The BLM grants leases for the development of oil and gas and other minerals on its public lands. At present, there are no existing oil wells.

The fourth and southernmost population of *Astragalus humillimus* is on the east side of the Hogback south of Highway 550. This population occurs on sandstone ledges of the Navajo Reservation. Some of the mineral rights in the area in which this population occurs are under the jurisdiction of BLM; however, there are currently no oil wells in the area. It is possible that the area will be explored within the next year prior to the expiration date of the leases that have been granted by BLM.

The BLM must be notified before exploration, drilling, or construction occurs on lands leased by it. Most of the land around all the *Astragalus* populations is leased; thus, the possibility of future exploration and drilling is high (Knight, 1981, and pers. comm., 1983; Moore, BLM, pers. comm., 1983).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* *Astragalus humillimus* is not currently sought for commercial, recreational, or educational purposes. The species is sought for scientific purposes. To date, this has not been shown to be a significant problem but the potential for a problem is great. This species has eluded the repeated searches of many botanists and there are very few good specimens in herbaria throughout the country. The species' existence is very vulnerable because of the low number of plants, and taking would be detrimental to the populations. The plants are easily accessible by road to collectors and vandals.

C. *Disease or predation.* There is no evidence that disease, predation, or grazing have adverse impacts on *Astragalus humillimus*. Sheep are grazed in the vicinity of three of the populations, but grazing of the plants themselves probably does not occur because of the spinescent nature of the petioles (Paul Knight, New Mexico Natural Resources Dept., pers. comm., 1983).

D. *The inadequacy of existing regulatory mechanisms.* *Astragalus humillimus* is not protected by New Mexico State law. A permit is needed, however, from the Navajo Tribe for plant study or collection on the Reservation. Tribal protection is not enough to ensure survival since it offers no habitat protection.

E. *Other natural or manmade factors affecting its continued existence.* The

low number of plants in only four known populations increases the possibility that one catastrophic disturbance could destroy a significant portion of the species. The disturbance could result from natural or manmade causes, such as a construction project (Knight, 1981).

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 *Astragalus humillimus* as endangered. Endangered status seems appropriate because there are only four populations of this species and they exist in an area being developed intensively for energy resources (Paul Knight, New Mexico Natural Resources Dept., pers. comm., 1983). Also, *Astragalus humillimus* is not afforded any protection by the State of New Mexico. Critical habitat is not being determined for this species (see Critical Habitat section).

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 this species at this time. No benefit to *Astragalus humillimus* can be identified that would outweigh the threats of taking or vandalism that might result from the required publication of detailed critical habitat descriptions. The Navajo Indian Tribe, BLM, BIA, and WAPA are aware of the locations of the populations, have acknowledged the threats to the Mancos milk-vetch, and are actively considering the species during planning. Therefore, no further benefits would accrue to *Astragalus humillimus* by critical habitat designation. Because of the low number of plants, the easily accessible populations, and the scientific curiosity regarding *Astragalus humillimus*, it would be detrimental to the species to publish critical habitat descriptions and maps.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species

Act provides for possible land acquisition and cooperation with the States 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 being designated. 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.

Astragalus humillimus is known to occur only on Navajo Indian Reservation and BLM lands. Known Federal activities that may be affected by this determination are maintenance of existing transmission lines and authorization of the planned upgrading of the existing 230 kV transmission lines by WAPA, Department of Energy. The BLM grants rights-of-way for transmission lines, and leases for the development of oil and gas and other minerals in the area; such activities would be subject to section 7 consultation. The BIA is the surface managing agency on Indian lands and would be subject to section 7 consultation if any of its actions may affect *Astragalus humillimus*.

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 plant species. With respect to *Astragalus humillimus*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, 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. 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. International and interstate commerce in *Astragalus humillimus* is not known to exist. It is anticipated that few trade permits will 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. The prohibition now applies to *Astragalus humillimus*. Permits for exceptions to this prohibition are available through section 10(a) of the Act, until revised regulations are promulgated to incorporate the 1982 Amendments. Proposed regulations implementing this prohibition were published on July 8, 1983 (48 FR 31417), and it is anticipated that these will be made final following public comment. *Astragalus humillimus* is known only from the Navajo Indian Reservation (BIA) and BLM lands. It is anticipated that few collecting 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).

Literature Cited

- Barneby, R.C. 1964. Atlas of North American *Astragalus*. Memoirs of the New York Botanical Garden. Vol 13. Part II.
- Knight, P.J. 1981. Rare, threatened, endangered, and other plants of concern in the BLM Chaco-San Juan Planning area of northwestern New Mexico. Department of Natural Resources, Heritage Program, Santa Fe, New Mexico.
- O'Sullivan, R. B., and H.M. Beikman. 1963. Geology, Structure, and Uranium deposits of the Shiprock Quadrangle, N.M. & Az. U.S.G.S. Miscellaneous Geologic Investigation Map I-345.
- Rydberg, P.A. 1905. *Astragalus* and its segregates in Colorado. Bulletin of the Torrey Botanical Club. 32: 657-665.

Authors

The primary authors of this final rule are Peggy Olwell and Alisa Shull, Endangered Species Office, 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, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1975). Status information was provided by Mr. Paul J. Knight, New Mexico Department of Natural Resources, Heritage Program, Sante Fe, New Mexico 87501.

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 Fabaceae, 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					
Fabaceae—Pea family:						
<i>Astragalus humilimus</i>	Mancos milk-vetch	U.S.A. (CO,NM)	E	186	NA	NA

Dated: June 18, 1985
Susan Recce,
Acting Assistant Secretary for Fish and Wildlife and Parks.
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