
DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Pediocactus despainii* (San Rafael Cactus)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines endangered status for *Pediocactus despainii* (San Rafael cactus). The two known populations of this plant consist of 2,000-3,000 individuals each. Both occur in Emery County in central Utah, mainly in areas administered by the Bureau of Land Management. This rare species is sought by cactus collectors, one population is heavily impacted by recreational use of off-road vehicles, and approximately half of each population is in areas covered by oil and gas leases and mining claims for gypsum or other minerals. This rule implements the protection provided by the Endangered Species Act of 1973, as amended, for *P. despainii*.

DATE: The effective date of this rule is October 16, 1987.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Regional Fish and Wildlife Enhancement Office, U.S. Fish and Wildlife Service, 134 Union Boulevard, fourth floor, Lakewood, Colorado, and the Fish and Wildlife Enhancement Field Office, U.S. Fish and Wildlife Service, 2078 Administration Building, 1745 West 1700 South, Salt Lake City, Utah 84104.

FOR FURTHER INFORMATION CONTACT: John Anderson, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement Office, 529 25½ Road, Suite B113, Grand Junction, Colorado 81505 (303/241/0563 or FTS 322-0348), or John Larry England at the Salt Lake City address above (801/524-4430 or FTS 588-4430).

SUPPLEMENTARY INFORMATION:

Background

Pediocactus despainii (San Rafael cactus) was discovered in 1978 by Kim Despain on the San Rafael Swell, a large anticline (geologic upwarp) in Emery County, Utah. Additional material was collected in 1979 by Despain, E. Neese, and K. Thorne of Brigham Young University, and also by K. Heil of San Juan College, Farmington, New Mexico (Heil 1984). The description of *Pediocactus despainii* was published by Welsh and Goodrich (1980). A second population on the San Rafael Swell, approximately 25 miles from the first, was located in 1982 by S. Brack, a cactus nurseryman from Belen, New Mexico. In 1984, Heil conducted a status survey and did not locate any new populations. The San Rafael cactus is thus known from just two populations, one in an area 3 miles (5 kilometers) across, and the other in an area 1 mile (1.6 kilometers) across. Each population contains 2,000 to 3,000 individual plants (Heil 1984).

Pediocactus despainii is a small barrel-type cactus, 1.5 to 2.3 inches (3.8 to 6.0 centimeters) tall and 1.2 to 3.8 inches (3.0 to 9.5 centimeters) wide. Each areole or spine cluster contains 9 to 13 white, flattened, pectinate (comblike) radial spines that partially obscure the stem, but no central spines are present. The small flowers are about 1 inch (2.5 centimeters) across and are peach to yellow in color with a bronze tint. This cactus is distinguished from other closely related members of its genus by its larger stem size, and naked (hairless) areoles, and by the bronze tint to its flowers. With its diminutive size and peculiar habit of shrinking underground for several months a year during dry or cold seasons, it is not surprising that *P. despainii* was only recently discovered. It is only noticeable for a short time in the spring when in bloom. Otherwise, even if the exact location of its populations are known, it cannot be seen and is easily overlooked. It grows on hills, benches, and flats of the Colorado plateau's semiarid grasslands. This habitat is savannahlike and contains scattered junipers, pinyon pines, low shrubs, and annual and perennial herbs. The occupied area is mostly administered by the Bureau of

Land Management (BLM), but the State of Utah owns one section.

The genus *Pediocactus* contains eight species, one with two varieties and another with three (Heil *et al.* 1981). Except for one wide-ranging species, all are rare endemics of the Four Corners region (Utah, Colorado, Arizona, and New Mexico). *Pediocactus bradyi*, *P. knowltonii*, *P. peeblesianus* var. *peeblesianus*, and *P. sileri* are currently listed as endangered. *Pediocactus paradinei*, *P. peeblesianus* var. *fickelseniae*, and *P. winkleri* are candidates for addition to the List of Endangered and Threatened Plants. These disjunct species are probably relicts of a once-more-widespread genus with a distribution that was fractured by the current climatic regime (Benson 1982).

Since *P. despainii* is a newly described rare cactus and a member of a group of cacti eagerly sought by collectors both in this country and abroad, it is endangered by collection pressures. The type locality is near a popular, though undeveloped, camping area and receives heavy use from off-road and all-terrain vehicles.

Approximately half of the range of the species is covered by oil and gas leases and mining claims for gypsum or other minerals. Surface disturbance associated with exploration for gypsum has occurred near the type locality. The effect of livestock grazing on the species is unknown.

In the *Federal Register* of December 15, 1980 (45 FR 82480), the Service published a notice of review for plants, which included *P. despainii* in Category 1. Category 1 comprises taxa for which substantial biological data are available to support listing. No comments on this taxon were received in response to the 1980 notice. In the *Federal Register* of November 28, 1983 (48 FR 53640), the Service published a supplement to the 1980 notice of review, in which *P. despainii* was changed to Category 2. Category 2 comprises taxa for which the Service has information indicating the possible appropriateness of a proposal to list the taxa, but for which more substantial data are needed. The status survey of Heil (1984), compiled through contract to the Service, provided the needed data. In the *Federal Register* of September 27, 1985 (50 FR 39526), the Service published a revised notice of review, in which *Pediocactus despainii* was redesignated as Category 1.

Taxa included in the 1980 and 1985 plant notices of review, and the 1983 supplement, are treated as if under petition pursuant to the Act. The 1982 Amendments to the Act required that petitions that were pending as of

October 12, 1982, be treated as having been received on that date. Section 4(b)(3) of the Act requires that within 12 months of the receipt of such a petition a finding be made as to whether the requested action is warranted, not warranted, or warranted but precluded by other activity involving additions to or removals from the Federal Lists of Endangered and Threatened Wildlife and Plants. Therefore, on October 13, 1983, the Service made the finding that determination of endangered status for *P. despainii* was warranted but precluded by other listing activity. With such a finding, the petition is recycled, and another finding becomes due within 12 months. On October 12, 1984, and again on October 11, 1985, additional findings of warranted but precluded were made with respect to the listing of *P. despainii*. In the *Federal Register* of March 27, 1986 (51 FR 10560-10563), the Service proposed to determine endangered status for *P. despainii*, and that proposal incorporated a finding that the petitioned action was warranted.

Summary of Comments and Recommendations

In the March 27, 1986, proposed rule (51 FR 10560) 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 *Emery County Progress* on April 16, 23, and 30, 1986, and in the *Deseret News* and *Salt Lake Tribune* on April 15, 16, and 17, 1986. Four comments were received and are discussed below. No public hearing was requested.

The State of Utah supported the listing. The International Union for Conservation of Nature and Natural Resources made an informational comment.

The Emery County Commission requested an informal meeting to discuss concerns arising from information included in a newspaper article. A meeting, including a field trip to one of the cactus population sites, was held on June 6, 1986. The Service's oral and written response to the Commission is summarized here. The Commission questioned whether there were sufficient threats to the species to warrant a designation of endangered, and if such threats could be removed by other means. The Service maintains that significant threats, such as collecting and off-road vehicle damage, exist to

the San Rafael cactus and will be difficult to remove. Therefore, the endangered determination is accurate. The Commission questioned whether the effects of grazing on the San Rafael cactus were actually known, since present grazing levels are lower than historic levels. The Service is interested in the effects of grazing on the fragile semidesert grassland habitat with which the San Rafael cactus is associated, but at present has no data documenting the impact of grazing on the species. The Commission was concerned that the designation of the San Rafael cactus as an endangered species would affect land use in the San Rafael Swell outside of its occupied habitat. Management of the entire San Rafael Swell is beyond the control of the Service in protecting the cactus and its habitat. Land-use decisions made by Federal agencies that could affect this species will be handled through the section 7 consultation process (see "Available Conservation Measures," below). Appropriate conservation measures would be directly related to the species' occupied habitat, which is only a small part of the San Rafael Swell.

The Bureau of Reclamation (1) commented on the taxonomy of *P. despainii*; (2) questioned whether listing would popularize the species and increase collecting while not reducing other threats such as off-road vehicle impacts, mineral exploration, and mining activities; and (3) questioned the change in candidate status among the three notices of review. The Service's response to the Bureau of Reclamation's comment is summarized here. *The Cacti of the United States and Canada* (Benson 1982) does not contain a discussion of *P. despainii* (beyond a reference in the appendix) because the book was in press for several years and does not contain references later than 1979. It was for this reason that no discussion was made of *P. despainii*, and not because the taxonomy of the species was in question. The threat of collecting will be addressed through the Service's Law Enforcement Division and through the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Regarding other threats, Federal agencies are legally required to insure that their actions in managing Federal land, such as authorizing off-road vehicle use and administering mineral leasing programs, are not likely to jeopardize listed species. Inasmuch as a significant portion of the habitat of this species is located on land administered by the Bureau of Land Management, listing could provide important protection from

such activities. A change in candidate category indicates not necessarily a change in the degree of urgency of listing, but a recognition of the need for more information to document the need for listing. After *P. despainii* was changed from Category 1 to 2, the Service contracted for a status survey to obtain additional information (Heil 1984).

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *P. despainii* 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 species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Pediocactus despainii* Welsh and Goodrich (San Rafael cactus) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The type locality of *P. despainii* is being heavily impacted by off-road vehicles, as it is near a popular recreation area. The level of impact is such that, in one area, individual plants were literally growing among the crisscrossed off-road vehicle tracks. About half of the area occupied by both populations contains oil and gas leases and mining claims for gypsum or other minerals. While no commercial development has taken place, surface disturbances from associated exploration and annual assessment work will continue to be a threat. The San Rafael cactus has some natural protection afforded by its habit of shrinking into the ground for part of the year. However, it forms buds in the fall that overwinter to become the next spring's flowers (Heil *et al.* 1981). These flowering buds at ground level may be vulnerable to surface disturbance, increasing the portion of the year that the species' reproductive capacity is vulnerable. Semiarid grassland parks and understory vegetation of pinyon-juniper woodlands are fragile habitats. They are easily invaded by aggressive native shrub and tree species or exotic weedy species when they are mechanically disrupted or when native grass species are removed. Another grassland cactus, *Opuntia imbricata* (tree cholla), was found to be significantly positively associated with

some of the same native perennial grass species as is *P. despainii*, and negatively associated with weedy species indicative of range deterioration, in the short grass prairie in El Paso County, Colorado (Kinraide 1978). Maintenance of the desert grassland parks and understory vegetation of pinyon-juniper woodland may be an essential habitat requirement for *P. despainii*.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* As indicated earlier, this rare plant is highly desired by cactus collectors. It is known that collectors "make the rounds" through the Four Corners area, from the habitat of one species of *Pediocactus* to the next, to collect a complete set (Heil, pers. comm.). The small size of these species makes them easy to hide and therefore hard to detect in interstate or international commerce.

C. *Disease or predation.* The effect of livestock grazing on *P. despainii* is unknown. Because of the small size of this cactus and its habit of shrinking underground for part of the year, grazing is not thought to be directly significant to its survival. However, there are cattle-watering reservoirs within the range of the first discovered population, which may cause localized concentrations of livestock and the possibility of trampling of a portion of that population. The effect of livestock grazing on the trend and condition of surrounding desert grassland and pinyon-juniper understory vegetation needs to be evaluated to determine its impact on *P. despainii*. Service botanists have observed that the species is susceptible to infestations of insect larvae.

D. *The inadequacy of existing regulatory mechanisms.* No treaties, except the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and no Federal or State laws, directly protect *P. despainii*. CITES regulates international import and export but not interstate commerce, collecting for possession, or impacts to habitat.

E. *Other natural or manmade factors affecting its continued existence.* The fragile nature and vulnerability of the desert grassland and pinyon-juniper ecosystem in which *P. despainii* occurs have been mentioned previously. Also, because there are only two populations and a low number of plants, the possibility exists that a catastrophic disturbance, either natural or manmade, could destroy a significant portion of the species.

The Service has carefully assessed the best scientific and commercial

information available regarding 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 *P. despainii* as endangered. With only 4,000 to 6,000 individuals, and just two populations, collecting could lower its numbers significantly, and surface disturbances are impacting the ecosystem in which it occurs. For the reasons given below, it would not be prudent to designate critical habitat.

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. As discussed under Factor "B" in the "Summary of Factors Affecting the Species," *P. despainii* is threatened by taking, an activity difficult to prevent and not regulated by the Act with respect to plants, except for a prohibition against removal of endangered plants from areas under Federal jurisdiction and reduction to possession. Publication of critical habitat descriptions would make this species even more vulnerable and increase enforcement problems. All involved parties and landowners have been notified of the location of populations and importance of protecting this species' habitat. Such protection will be addressed through the recovery and section 7 consultation process.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the 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 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. 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 such a 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. Known Federal activities that may affect *P. despainii* are sanctioned use of off-road vehicles within its habitat, permitting actions in response to oil and gas development, and approval of mining plans. BLM is already consulting with the Service regarding such matters, and effects on that agency's activities due to this listing are expected to be minimal.

Section 9 of the Act and 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. 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 a 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. Because of horticultural interest in *P. despainii*, trade permits

may be sought, but few permits for plants of wild origin would ever be issued since the species is not common in the wild. Plants of cultivated origin are available and permits may, under certain circumstances, be issued for trade in those. Requests for copies of regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, DC 20240 (703/235-1903).

On July 29, 1983, *P. despainii* was included on 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 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. As notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

References Cited

Benson, L. 1982. *The Cacti of the United States and Canada*. Stanford University Press, 1044 pp.

Heil, K. 1984. Status report on *Pediocactus despainii*, U.S. Fish and Wildlife Service, Denver, Colorado, 14 pp.
 Heil, K., B. Armstrong, and D. Schleser, 1981. A review of the genus *Pediocactus*. *Cactus & Succulent Journal* 53:17-39.
 Kinraide, T.B. 1978. The ecological distribution of cholla cactus (*Opuntia imbricata* (Haw.) DC.) in El Paso County, Colorado. *Southwestern Naturalist* 23:117-134.
 Welsh, S.L., and S. Goodrich. 1980. Miscellaneous plant novelties from Alaska, Nevada, and Utah. *Great Basin Naturalist* 40:78-88.

Author

The primary author of this final rule is John L. Anderson; John L. England acted as editor (see ADDRESSES section above).

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.*).

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Cactaceae, 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					
Cactaceae—Cactus family:						
<i>Pediocactus despainii</i>	San Rafael cactus	U.S.A. (UT)	E	286	NA	NA

Dated: August 26, 1987.

Susan Recce,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 87-21286 Filed 9-15-87; 8:45 am]

BILLING CODE 4310-55-M