

¹⁰These antenna standards apply to all point-to-point stations authorized after June 1, 1997. Existing licensees and pending applicants on that date are grandfathered and need not comply with these standards.
¹¹These antenna standards apply to all point-to-point stations authorized on or before June 1, 1997.
¹²These antenna standards apply only to Digital Termination User Stations licensed, in operation, or applied for prior to July 15, 1993.

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 11. Section 94.77 is amended by revising the introductory text and the heading of paragraph (a) to read as follows:

§ 94.77 Interference to geostationary-satellites.
 These limitations are necessary to minimize the probability of harmful interference to reception in the bands 2655–2690 MHz, 5925–6875 MHz, and 12.7–12.75 GHz on board geostationary-space stations in the fixed-satellite service (part 25). Stations authorized in the band 2655–2690 MHz prior to July 1, 1976 that exceed the power levels in paragraphs (a) and (b) of this section are permitted to operate indefinitely, provided that the operation of such stations does not result in harmful interference to reception in this band on board geostationary space stations.
 (a) 2655 to 2690 MHz and 5925 to 6875 MHz. * * *

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 12. Section 94.79 is revised to read as follows:

§ 94.79 Minimum path lengths for fixed links.
 (a) The distance between end points of a fixed link must equal or exceed the value set forth in the following table or in the EIRP must be reduced in accordance with the equation set forth in paragraph (b) of this section.

Frequency band (MHz)	Minimum path length (km)
Below 1,850	N/A
1,850 to 7,125	17
10,550 to 13,250	5
Above 17,700	N/A

(b) For paths shorter than those specified in the Table, the EIRP shall not exceed the value derived from the following equation.
 $EIRP = 30 - 20 \log(A/B)$, dBW
 Where:
 EIRP=Equivalent isotropic radiated power in dBW.
 A=Minimum path length from the Table for the frequency band in kilometers.
 B=The actual path length in kilometers.
Note: Automatic transmit power control may be used to meet this requirement pursuant to § 94.45.

(c) Upon an appropriate technical showing, applicants and licensees

unable to meet the minimum path length requirement may be granted an exception to these requirements.
Note: Links authorized prior to April 1, 1987 need not comply with this requirement.

13. Section 94.81 is amended by adding paragraph (c) to read as follows:

§ 94.81 Authorization of microwave equipment.
 * * * * *
 (c) After July 15, 1994, the manufacture (except for export) or importation of equipment employing digital modulation techniques in the 3700–4200, 5925–6425, 6525–6875, 10,550–10,680, and 10,700–11,700 MHz bands must meet the minimum payload capacity requirements of § 21.122(a)(3) of this chapter.

14. Section 94.94 is revised to read as follows:

§ 94.94 Microwave digital modulation.
 Microwave transmitters employing digital modulation techniques in the 17,700–19,700 MHz band shall transmit at a bit rate, in bits per second (bps), equal to or greater than the authorized bandwidth in Hertz (e.g., to be acceptable, equipment transmitting at a 20 Mbps rate must not require an authorized bandwidth greater than 20 MHz). This bps/Hz standard is independent of the antenna (polarization) used, frequency reuse, or how the system is configured. For equipment applied for, authorized, and placed in service after June 1, 1997 in the 3700–4200, 5925–6425, 6525–6875, 10,550–10,680, and 10,700–11,700 MHz bands, standards of § 21.122(a)(3) of this chapter shall be met.

Note: Systems authorized in the 17,700–19,700 MHz band prior to December 1, 1988 may install equipment with no minimum bit rate.
 [FR Doc. 93–22601 Filed 9–21–93; 8:45am]
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DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
50 CFR Part 17
RIN 1018–AB83
Endangered and Threatened Wildlife and Plants; Removal of Echinocereus Triglochidiatus var. Inermis (Spineless Hedgehog Cactus) From the List of Endangered and Threatened Plants

AGENCY: Fish and Wildlife Service, Interior.
ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) hereby removes *Echinocereus triglochidiatus* var. *inermis* (spineless hedgehog cactus) from the List of Endangered and Threatened Plants. This action is based on a review of all available data, which indicate that this plant is not a discrete and valid taxonomic entity and does not meet the definition of a species (which includes subspecies) as defined by the Endangered Species Act of 1973, as amended; it was listed in error. *E. t.* var. *inermis* is a spineless form of *E. t.* var. *melanacanthus* (red-flowered hedgehog cactus) that occurs sporadically in southeastern Utah and in southwestern Colorado. *E. t.* var. *melanacanthus* is a common variety with a widespread distribution from northern Utah and Colorado south to the States of Durango and San Luis Potosi in central Mexico. This final rule eliminates Federal protection of the Endangered Species Act, as amended.

EFFECTIVE DATE: September 22, 1993.
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, Ecological Services, 730 Simms Street, room 290, Golden, Colorado 80401, or at the U.S. Fish and Wildlife Service, Ecological Services, Western Colorado Suboffice, 529–25½ Road, suite B–113, Grand Junction, Colorado 81505–6199.

FOR FURTHER INFORMATION CONTACT: Dr. Lucy Jordan, Botanist, at the above Grand Junction address (Phone: 303/243–2778).

SUPPLEMENTARY INFORMATION:
Background
 The spineless hedgehog cactus has been known for nearly 100 years. It was

first collected in the La Sal Mountains of Utah by the German botanist Carl Albert Purpus and described by Karl Schuman in 1896 as *Echinocereus phoeniceus* Engelm. var. *inermis* K. Schuman (Taylor 1985). The Purpus type collection is no longer available for study because it was destroyed during World War II.

Historically, the spineless hedgehog cactus has not been recognized as a taxonomically distinct taxon. For instance, in the first complete treatment of the flora of Colorado, Harrington (1954) considered it only as a form. However, in the early 1970's, Arp (1973) made the combination *Echinocereus triglochidiatus* Engelm. var. *inermis* (K. Schum.) G.K. Arp. Although he recognized that the spineless hedgehog cactus had not been considered taxonomically distinct, Arp (1973) considered it: " * * * a distinct and identifiable population." His taxonomic recognition of the spineless hedgehog cactus coincided with passage of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*), and its new provisions for the protection of endangered and threatened plants. The Fish and Wildlife Service (Service) listed it as endangered on November 7, 1979 (44 FR 64744).

Subsequent to listing the spineless hedgehog cactus, a recovery plan (U.S. Fish and Wildlife Service 1986) was prepared. This plan pointed out that some botanists questioned the taxonomic status of the plant and suggested further studies were needed to evaluate its taxonomy. Although the Service had listed the spineless hedgehog cactus, subsequent evaluations did not recognize it as a distinct taxon. These evaluations include Benson (1982), Taylor (1985), Weber (1987), and Welsh *et al.* (1987). The consensus of knowledgeable botanists is that the spineless hedgehog cactus is only a form and not a taxonomic entity.

The recovery plan also stated that the difference between spineless plants on mesa or ridge tops and spined plants on adjacent sideslopes may only be due to microhabitat differences. These different microsites are separated by short distances of as little as 15 m (50 ft). Subsequent inventories in the 12 years since listing have found spined and spineless plants on either flats or slopes, and spineless plants have been found in much more widely scattered areas (James Ferguson, Bureau of Land Management, pers. comm., 1985).

The spineless hedgehog cactus is now found at over 20 sites. Its known range has been expanded 160 km (100 mi) to the west (Heil and Porter 1989) and 40

km (25 mi) to the east and south (James Ferguson, pers. comm., 1986) of the original area. This is an area about 320 km (200 mi) by 160 km (100 mi), where it occurs widely interspersed within the range of var. *melanacanthus* (red-flowered hedgehog cactus) in southeast Utah and southeast Colorado.

The spineless hedgehog cactus does not breed true. Attempts by cactus nurseries to breed spineless plants from mature, 15-year-old stock have yielded a mixture of spined and spineless progeny (Steven Brack, cactus horticulturist, Belen, New Mexico, pers. comm., 1991).

The spineless hedgehog cactus was formerly recognized as a distinct entity by cactus collectors. However, the cactus trade is well-known for splitting narrowly defined morphological variants of plants that are of horticultural interest to collectors. Collectors are usually not as concerned with concepts of populational integrity in nature, and horticultural recognition is not necessarily the same as scientific classification.

The Service published a proposal to delist the spineless hedgehog cactus on January 14, 1993 (58 FR 4401). All interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. The Service particularly requested any evidence of populations of *E. triglochidiatus* whose individuals are plants referable only, or largely to, the variety *inermis*. No comments were received.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Echinocereus triglochidiatus* var. *inermis* should be removed from the List of Endangered and Threatened Plants found at 50 CFR 17.12. Procedures found at Section 4(a)(1) of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. Regulations (50 CFR 424.11) require that certain factors be considered before a species can be listed, reclassified, or delisted. These factors and their application to *Echinocereus triglochidiatus* Engelm. var. *inermis* (K. Schum.) G.K. Arp. (spineless hedgehog cactus) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Echinocereus triglochidiatus var. *inermis* has been determined to be a spineless form of *E. t. var.*

melanacanthus. *E. t. var. melanacanthus* is a common variety that is distributed from Utah and Colorado south into the States of Durango and San Luis Potosi in central Mexico (Benson 1982). The common *E. t. var. melanacanthus*, which includes *E. t. var. inermis*, is not threatened. The final rule that designated *E. t. var. inermis* as an endangered species identified habitat modification from pinyon-juniper chaining and mining activities. Because *E. t. var. inermis* is not a valid taxon and does not meet the definition of "species" as defined in the Act and because the taxon of which it is a part is common and wide ranging, this threat is not applicable.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The final rule cited overcollecting by commercial and private cactus collectors as the primary threat. Here again, as stated above in Section A, this threat is not applicable to the common and wide-ranging *E. t. var. melanacanthus* which includes *E. t. var. inermis*.

C. Disease or Predation

Neither disease nor predation is a threat to *E. t. var. melanacanthus* which includes *E. t. var. inermis*.

D. The Inadequacy of Existing Regulatory Mechanisms

Echinocereus triglochidiatus var. *melanacanthus*, a common and wide ranging taxon, is not threatened by the inadequacy of regulatory mechanisms. All acts are listed in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Convention). The Convention regulates and in some cases prohibits the export and international trade in species listed in the appendices. *E. t. var. inermis* will no longer be considered a distinct taxon in the appendices, but *E. t. var. melanacanthus* will remain on Appendix II.

E. Other Natural and Manmade Factors Affecting Its Continued Existence

None are known. The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to *E. t. var. inermis* in determining to make this final rule. Based on this evaluation, the preferred action is to remove *Echinocereus triglochidiatus* var. *inermis* from the List of Endangered and Threatened Plants in 50 CFR 17.12, thereby removing it from the protection

of the Act, as amended. The regulations of 50 CFR 424.11(d) state that a species may be delisted if: (1) it becomes extinct, (2) it recovers, or (3) the original classification data were in error. The Service believes current scientific information exists that demonstrates that *E. t. var. inermis* does not represent a valid taxonomic entity and, therefore, does not meet the definition of "species" as defined in Section 3(16) of the Act. Therefore, *E. t. var. inermis* was listed in error.

In accordance with 5 U.S.C. 553(d), the Service has determined that this rule relieves an existing restriction and good cause exists to make the effective date of this rule immediate. Delay in implementation of this delisting would cost government agencies staff time and monies on conducting formal section 7 consultation on actions which may affect a species no longer in need of protection under the Act. Relieving the existing restriction associated with this listed species will enable Federal agencies to minimize any further delays in project planning and implementation for actions that may affect the spineless hedgehog cactus.

Effects of Rule

This action removes the spineless hedgehog cactus from the List of Endangered and Threatened Plants. Federal Agencies are no longer required to consult with the Secretary of the Interior to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of *E. t. var. inermis*. There is no designated critical habitat for this species. Federal restrictions on taking of this species no longer apply. There are no specific preservation or management programs for the species that are terminated.

National Environmental Policy Act

The 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 Act, as amended. A notice outlining the Service's reasons for this determination was published in **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

- Arp, G. 1973. Studies in the Colorado cacti V. The spineless hedgehog. *Cactus and Succulent Journal* 45:132-133.
- Benson, L. 1982. The cacti of the United States and Canada. Stanford University Press, Stanford, California. 1,044 pp.
- Harrington, H.D. 1954. Manual of the plants of Colorado. Sage Books, Denver. 666 pp.

Heil, K. and M.L. Porter. 1989. Endangered, threatened, rare and other plants of concern at Capitol Reef National Park. Part II Taxa of Concern. Status report prepared for National Park Service, Capitol Reef National Park.

Taylor, N.P. 1985. The genus *Echinocereus*. Timber Press, Portland, Oregon. 160 pp.

U.S. Fish and Wildlife Service. 1986. Spineless hedgehog cactus recovery plan. U.S. Fish and Wildlife Service, Denver, Colorado. 19 pp.

Weber, W.A. 1987. Colorado flora: Western Slope. Colorado Associated University Press, Boulder. 530 pp.

Welsh, S.L., N.D. Atwood, S. Goodrich, and L.C. Higgins. 1987. A Utah flora. Great Basin Naturalist Memoirs, No. 9. Brigham Young University Press, Provo, Utah. 894 pp.

Author

The original author of the proposed rule was John L. Anderson, Botanist, U.S. Fish and Wildlife Service. The primary author of this final rule is Dr. Lucy A. Jordan, Botanist (see ADDRESSES section above).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulation Promulgation

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is hereby amended, as set forth below:

PART 17—[AMENDED]

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

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted.

§ 17.12(h) [Amended]

2. § 17.12(h) is amended by removing the entry "*Echinocereus triglochidiatus* var. *inermis* (spineless hedgehog cactus)" under "Cactaceae" from the List of Endangered and Threatened Plants.

Dated: September 1, 1993.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.
[FR Doc. 93-23104 Filed 9-21-93; 8:45 am]

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50 CFR Part 17

RIN 1018-AB83

Endangered and Threatened Wildlife and Plants; Final Rule To Delist the Plant *Hedeoma apiculatum* (McKittrick Pennyroyal) and Remove Its Critical Habitat Designation

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Fish and Wildlife Service removes the plant *Hedeoma apiculatum* (McKittrick pennyroyal) from the List of Endangered and Threatened Plants and removes its critical habitat. The species is endemic to the Guadalupe Mountains in northwestern Texas and southeastern New Mexico. Because of the range, the number of newly discovered populations, and the remote and inaccessible nature of the habitat, the Service determines that McKittrick pennyroyal is not in danger of extinction throughout all or a significant portion of its range now or in the foreseeable future.

EFFECTIVE DATE: September 22, 1993.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the New Mexico Ecological Services Field Office, U.S. Fish and Wildlife Service, 3530 Pan American Highway, NE., suite D, Albuquerque, New Mexico 87107.

FOR FURTHER INFORMATION CONTACT: Philip Clayton, at the above address (505/883-7877).

SUPPLEMENTARY INFORMATION:

Background

Hedeoma apiculatum (McKittrick pennyroyal) was first collected in 1882, but remained undescribed until 1939 (Epling and Stewart 1939). The plant is a perennial herb, 10-15 cm (4-6 in.) tall, with dense tufts of leaves growing from woody rootstocks. The showy pink flowers are about 2 cm (0.8 in.) long, solitary or in clusters, and emerge from among the leaves towards the tips of the stems (Irving 1980).

McKittrick pennyroyal is endemic to the Guadalupe Mountains in Eddy County, New Mexico, and Culberson County, Texas. It is found in fissures and weathered pockets in open limestone rock outcrops at elevations above 1,660 m (5,400 ft). The species prefers north facing cliffs and slopes, but can occur on any aspect of sheltered relatively moist outcrops (Irving 1980, Knight and Cully 1988, Sivinski and Lightfoot 1992).