Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
.	.	.	.	.	.	.	.

Dated: July 24, 1994.

Mollie H. Beattie,

Director, Fish and Wildlife Service.

[FR Doc. 94-18932 Filed 8-1-94; 8:45 am]

BILLING CODE 4310-55-P

50 CFR Part 17

RIN 1018-AC83 155-94

Endangered and Threatened Wildlife and Plants; Proposed Rule to List the San Diego Fairy Shrimp as Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Fish and Wildlife Service (Service) proposes to list the San Diego fairy shrimp (*Branchinecta sandiegoensis*) as endangered throughout its range in southwestern California and northwestern Baja California, Mexico, pursuant to the Endangered Species Act of 1973, as amended (Act). This species occurs in vernal pools and is threatened by a variety of factors including: Habitat destruction and fragmentation from agricultural and urban development, alterations of wetland hydrology by draining, off-road vehicle activity, and cattle and sheep grazing. This proposed rule, if made final, would extend the Act's protection to the San Diego fairy shrimp.

DATES: Comments from all interested parties must be received by October 3, 1994. Public hearing requests must be received by September 19, 1994.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Field Office, 2730 Loker Avenue West, Carlsbad, California 92008. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Fred M. Roberts, at the above address (telephone 619/431-9440).

SUPPLEMENTARY INFORMATION:

Background

The San Diego fairy shrimp (*Branchinecta sandiegoensis*) is a member of Branchinectidae, a freshwater crustacean family in the Order Anostraca (fairy shrimp). The species was first described by Michael Fugate (1993) based on collections made at Del Mar Mesa in San Diego County in 1990 by himself and M. Simovich. The San Diego fairy shrimp is closely allied with, and has historically been misidentified as, *B. lindahli*, a species widely distributed in western North America. The San Diego fairy shrimp was first collected (but then identified as *B. lindahli*) in Poway and Ramona, San Diego County, in 1962; additional collections were made on Kearny Mesa in 1979 (Simovich and Fugate 1992).

The San Diego fairy shrimp is restricted to vernal pools, which occur in areas with shallow depressions that have a clay hardpan soil layer that inhibits water percolation. This results in a perched water table during the winter rainy season and the following spring. Vernal pools retain water only long enough to support relatively few species of aquatic emergent plants and invertebrates. As the pools dry and the surface water recedes toward the center of the pool, a unique and dynamic flora develops in its place. Vernal pools typically occur on mesa tops or valley floors and are surrounded by very low hills, usually referred to as mima mounds (Zedler 1987).

The San Diego fairy shrimp is a small and delicate animal with large stalked compound eyes, no carapace, and 11 pairs of swimming legs. Mature males are from 9 to 16 mm (0.4 to 0.6 in) in length and females are 8 to 14 mm (0.4 to 0.5 in) in length. They swim or glide upside down by means of complex beating movements of the legs that pass in a wave-like anterior to posterior direction. The second pair of antennae on the adult female are cylindrical and elongate, but in the male are greatly enlarged and specialized for clasping the female during copulation. The female carries the eggs in an oval or elongate ventral brood sac. The eggs are either released or remain attached to the female until she dies and sinks. The thick-shelled eggs are capable of withstanding high heat, cold, and prolonged desiccation.

The San Diego fairy shrimp occurs in San Diego County from San Marcos and Ramona south to Otay Mesa and at Valle de Palmas in northwestern Baja California, Mexico. All known localities are below 700 meters (2,300 feet) and within 50 kilometers (30 miles) of the Pacific coast. Five other branchinectid fairy shrimp occur in southern California. Only one of these species, *Branchinecta lindahli*, is known from San Diego County (Simovich and Fugate 1992). *B. lindahli* is a habitat generalist and may occur in ponds or ditches. The only other branchinectid fairy shrimp in southern California that is similar in appearance to the San Diego fairy shrimp is the vernal pool fairy shrimp (*B. lynchi*), which occurs in adjacent Riverside County. Male San Diego fairy shrimp may be separated from males of other species within the genus by the shape of the second antenna. Female San Diego fairy shrimp are distinguishable by the shape and length of the ovisac and egg and by the presence of paired dorsolateral spines (Fugate 1993).

The San Diego fairy shrimp is a habitat specialist and is restricted to vernal pools. This species occasionally occurs in ditches and road ruts, but only if these depressions are in degraded vernal pool habitat (D. Hogan, San Diego Biodiversity Project, *in litt.*, 1992; Marie Simovich, University of San Diego, pers. comm., 1993). This species appears to prefer cool water temperatures ranging from 10 to 23 degrees centigrade (Fugate and Simovich 1992).

The prehistorical distribution of this species is uncertain. The majority of the vernal pools in this region were lost prior to 1990. However, based on historical collections (some originally identified as *B. lindahli*) the San Diego fairy shrimp was known from at least 15 locales within San Diego County (Balko and Ebert 1987, Fugate 1993). The fairy shrimp presently occurs in fewer than 70 vernal pools within 11 vernal pool complexes in coastal San Diego County (Hogan 1992). Three of the San Diego County populations of this species are on Federal land (all on Miramar Naval Air Station). Two others are, in part, on public land (Del Mar Mesa Vernal Pool Preserve and Mission Trails Regional Park).

The San Diego fairy shrimp has also been reported from Isla Vista in Santa Barbara County, California, but the identification of the single female individual is unconfirmed (Michael Fugate, University of Oregon, pers.

comm., 1993). Directed surveys of vernal pools in Isla Vista for fairy shrimp have not located any additional San Diego fairy shrimp individuals (Marie Simovich, pers. comm., 1994). The vernal pools in south coastal Santa Barbara County have been significantly reduced in number by the same factors that have reduced the number of vernal pools in San Diego County (Ferren and Pritchett 1988). The Santa Barbara County vernal pools are now isolated from those in San Diego County by agricultural and urban development in Ventura, Los Angeles, and Orange Counties.

Previous Federal Action

On March 24, 1992, the Service received a petition to list the San Diego fairy shrimp as endangered. Petitioners were Dave Hogan of the San Diego Biodiversity Project in Julian, California, and Denton Belk of Our Lady of the Lake University in San Antonio, Texas. The Service finds that substantial information was presented in the petition to indicate that the requested action may be warranted. This finding is based on a detailed narrative justification in the petition for the recommended action, including information about the distribution, decline, and threats to this species over a significant portion of its range. This proposed rule is the first Federal action on the San Diego fairy shrimp and constitutes the final 1-year finding on the petitioned action that the action is warranted, as required by section 4(b)(3)(B) of the Act.

Summary of Factors Affecting the Species

Section 4 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 set forth the procedures for adding species to the Federal lists. 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 the San Diego fairy shrimp (*Branchinecta sandiegoensis* Fugate) are discussed below.

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

The natural plant communities of coastal San Diego County and northwestern Baja California, Mexico, have undergone significant changes as a result of both direct and indirect human-caused activities. The rapid urbanization of this region has already eliminated a significant proportion of the vernal pool habitat for this taxon. The remaining patches of habitat are frequently isolated, degraded, and/or fragmented by agricultural practices, streambed channelization and other hydrological alterations, and grazing.

Vernal pools have undergone an extraordinary reduction in number and have nearly been eliminated in southern California. In San Diego County, over 97 percent of vernal pool habitat had been lost by 1986 (Bauder 1986). While it is uncertain how many of these pools were occupied by the San Diego fairy shrimp, the species was known to occupy a number of vernal pools that have since been disturbed, destroyed or lost (Bauder 1986, Balko and Ebert 1987, Fugate 1993).

In San Diego County, the San Diego fairy shrimp occurs within vernal pool complexes that have been and continue to be impacted by urbanization and agricultural conversion (Bauder 1986, Hogan and Belk 1992, Nancy Gilbert and Ellen Berryman, U.S. Fish and Wildlife Service, pers. comm., 1993). Nine of the 11 known populations of San Diego fairy shrimp in San Diego County are declining because of vernal pool destruction (Bauder 1986; D. Hogan, *in litt.* 1992; Marie Simovich, pers. comm., 1993).

At least two populations of the San Diego fairy shrimp occur on Otay Mesa in San Diego County. A minimum of 37 proposed Precise Plans and Tentative Maps for development have been filed pursuant to the California Environmental Quality Act for this area. These plans encompass about 80 percent of the undeveloped portion of the mesa within the jurisdiction of the city of San Diego and virtually all but four of the remaining vernal pool complexes. Several of these projects will impact the San Diego fairy shrimp. At least one major transportation project has been proposed for Otay Mesa and could potentially impact vernal pools that are occupied by the San Diego fairy shrimp.

The San Diego fairy shrimp is found on Federal lands managed by the Navy. The species occurs on Miramar Naval Air Station. These lands are used, in part, for military training activities that involve off-road vehicle maneuvers that adversely impact the species (Hogan and Belk 1992).

Trash dumping has also degraded vernal pools in San Diego County. Discarded chunks of concrete, tires, refrigerators, furniture, and other pieces of garbage or debris have been found in pools containing the San Diego fairy shrimp. This trash crushes or shades vernal pool plants, disrupts the hydrologic functions of the pool, and in some cases, may release toxic substances.

Vernal pools in San Diego County have also been degraded by off-road vehicles. These vehicles compact soils, crush plants when water is present, cause turbidity, and leave deep ruts. This type of damage may alter the microhydrology of the pools. Dirt roads that go through or adjacent to pools are widened as motorists try to avoid mud puddles and in this way, the pools are gradually destroyed.

The San Diego fairy shrimp's vernal pool habitat is also vulnerable to indirect destruction due to the alteration of the supporting watershed. An increase in water due to urban run-off leads to increased inundation and makes pools vulnerable to invasion by marshy plant species resulting in decreased abundance of obligate vernal pool taxa. At the other extreme, some pools have been drained or blocked from their source of water and have shown an increased domination by upland plant species. The San Diego fairy shrimp is especially vulnerable to alterations in hydrology.

Development projects adjacent to vernal pools are often responsible for adverse alterations in drainage. Hydrological alterations are sometimes a result of agricultural development, or a combination of urban development and agriculture.

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

Overutilization is not currently a known threat factor for the San Diego fairy shrimp.

C. Disease or Predation

As vernal pools mature, there is a gradual increase in numbers and size of predaceous aquatic insects, known to consume fairy shrimp (Zedler 1987).

D. The Inadequacy of Existing Regulatory Mechanisms

Existing regulatory mechanisms that could provide some protection for the San Diego fairy shrimp include: (1) Consideration under the California Environmental Quality Act (CEQA); (2) implementation of conservation plans pursuant to the State of California's Natural Community Conservation Planning Act of 1991 (NCCP), the San Diego Multiple Species Conservation Plan (MSCP), and the San Diego County Multiple Habitat Conservation Plan (MHCP); (3) section 404 of the Federal Clean Water Act; (4) occurrence with other species protected by the Federal Endangered Species Act; (5) land acquisition and management by Federal, State, or local agencies, or by private groups and organizations; (6) local laws and regulations; and (7) Mexican law.

Most of the known populations of the taxon occur on privately owned land. Local lead agencies empowered to uphold and enforce the regulations of the CEQA have made determinations that have or will adversely affect the San Diego fairy shrimp. Required biological surveys are often inadequate and project proponents may ignore the results of surveys if occurrences of sensitive species are viewed as a constraint on project design. Mitigation measures used to condition project approvals are essentially experimental and fail to adequately guarantee protection of sustainable populations.

For example, in San Diego County, vernal pools containing the San Diego fairy shrimp and the Federal- and State-listed *Pogogyne abramsii* (San Diego mesa mint) were destroyed without adequate environmental documentation or coordination with the Service and the California Department of Fish and Game. In this case, the project proponent was a school district.

Section 15380 of CEQA requires that impacts to any taxon that meets the criteria for listing under the California Endangered Species Act be treated as significant regardless of its current listing status. The San Diego fairy shrimp has been recognized as a distinct taxon by the scientific and local conservation communities since 1990. Impacts to this species would qualify as significant under section 15380 of CEQA even though this species was not formally recognized until 1993 (Fugate 1993). However, this taxon has only been considered in a limited number of environmental impact reports since 1990.

In 1991, the State of California established the NCCP program to address the conservation needs of natural ecosystems throughout the State. The initial focus of this program was the coastal sage scrub community. The San Diego fairy shrimp is found in vernal pools and not coastal sage scrub. The San Diego fairy shrimp is being considered under the MSCP and MHCP programs. These programs, under development by the County of San Diego and its coastal cities, are being integrated as components of the NCCP program. However, these programs are still in the developmental phase, and it is uncertain as to what degree they will be successful in providing protection for this species. For example, two alternatives of the MSCP (coastal sage scrub and public lands) would not provide adequate preservation for the San Diego fairy shrimp because much of the shrimp's habitat (vernal pools) would be excluded.

Under section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) regulates the discharge of fill into waters of the United States, including navigable waters, wetlands (e.g., vernal pools), and other waters. The Clean Water Act requires project proponents to obtain a permit from the Corps prior to undertaking many activities (e.g., grading, discharge of soil or other fill material, etc.) that would result in the fill of wetlands under the Corps' jurisdiction. The Corps promulgated Nationwide Permit Number 26 (see 33 CFR 330.5(a)(26)) to address fill of isolated or headwater wetlands totalling less than 10 acres. Under Nationwide Permit 26, proposals that involve the fill of wetlands less than one acre are considered authorized. Where fill would adversely modify between 1 to 10 acres of wetland, the Corps circulates a predischarge notification to the Service and other interested parties for comment to determine whether or not an individual permit should be required for a proposed fill activity and associated impacts.

Individual permits are required for the discharge of fill material that would fill or adversely modify greater than 10 acres of wetlands. The review process for the issuance of individual permits is more rigorous than for nationwide permits. Unlike nationwide permits, an analysis of cumulative wetland impacts is required for individual permit applications. Resulting permits may include special conditions that require the avoidance or mitigation of environmental impacts. On nationwide permits, the Corps has discretionary authority to require an applicant to seek an individual permit if the Corps believes that the resources are sufficiently important, regardless of the wetland's size. In practice, the Corps rarely requires an individual permit when a project would qualify for a nationwide permit, unless when a threatened or endangered species or other significant resources would be adversely affected by the proposed activity.

The San Diego fairy shrimp could potentially be affected by projects requiring a permit from the Corps under section 404 of the Clean Water Act. Although the objective of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (Pub. L. 92–500), which include navigable and isolated waters, headwaters, and adjacent wetlands, no specific provisions adequately address the need to conserve candidate species such as the San Diego fairy shrimp.

Even if the Corps establishes jurisdiction under the Clean Water Act over vernal pools, this does not ensure their protection. At least two vernal pool complexes under Corps jurisdiction in San Diego County have been destroyed or degraded without a section 404 permit (Jim Dice, Calif. Department of Fish and Game, pers. comm., 1993; U.S. Fish and Wildlife Service data files).

The Act can incidentally afford protection to the San Diego fairy shrimp if they co-exist with species already listed as threatened or endangered. *Pogogyne abramsii* (San Diego mesa mint), *Pogogyne nudiscula* (Otay Mesa mint), *Orcuttia californica* (California orcutt grass), *Eryngium aristulatum* var. *parishii* (San Diego button celery), and the Riverside fairy shrimp (*Streptocephalus wootoni*) are listed as endangered under the Act and occur in the same habitat as the San Diego fairy shrimp. However, these species are generally not found in the same vernal pool complexes as the San Diego fairy shrimp. The Riverside fairy shrimp and San Diego fairy shrimp co-exist in only three vernal pool complexes in San Diego County. Within a vernal pool complex, the San Diego fairy shrimp does not often occur in the same pools as listed species.

Land acquisition and management by Federal, State, or local agencies, or by private groups and organizations has contributed to the protection of some localities inhabited by this taxon. However, as discussed below, these efforts are often directed at other species and are inadequate to assure the long-term survival of the San Diego fairy shrimp.

The San Diego fairy shrimp occurs within the California Department of Transportation Vernal Pool Preserve. Although these pools are managed for the long-term protection of vernal pool flora and fauna, off-road vehicle activity, development proposals immediately adjacent to the preserve, and proposed restoration actions threaten the San Diego fairy shrimp at this locality (Hogan and Belk 1992; M. Simovich, pers. comm., 1993).

The San Diego fairy shrimp also occurs in northwestern Baja California, Mexico. The Service is not aware of any existing regulatory mechanisms in Mexico that would protect the San Diego fairy shrimp or its habitat.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Cattle grazing occurs on Otay Mesa in areas where several vernal pool complexes contain the San Diego fairy shrimp. Livestock grazing typically

changes the composition of native plant communities by reducing or eliminating those species that can not withstand trampling and by enabling more resistant (usually non-native) species to increase in abundance. Taxa that were not previously part of the native flora may be introduced and flourish under a grazing regime and may reduce or replace native species through competition for resources.

Disturbance of vernal pools in San Diego County increases the potential for other fairy shrimp species (such as the widespread *Branchinecta lindahli*) to replace the San Diego fairy shrimp, which is unable to persist under disturbed conditions (M. Simovich, *in litt.*, University of San Diego, 1992).

San Diego fairy shrimp are highly reliant on seasonal rainfall. Drier conditions, such as those that prevailed from 1986 to 1992, reduce the number of individuals in populations. Climatic conditions stress species. Negative effects of habitat loss and degradation from other factors including development, discing, and grazing, when combined with climatic conditions, increase the level of threat to the San Diego fairy shrimp.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the San Diego fairy shrimp in determining to propose this rule. Based on this evaluation, the Service finds that the preferred action is to list the San Diego fairy shrimp as endangered. The San Diego fairy shrimp is threatened by one or more of the following factors: Habitat alteration and destruction resulting from urban and agricultural development; alteration of hydrology; off-road vehicle use/recreational activities; inadequate regulatory mechanisms; and grazing.

The San Diego fairy shrimp is in imminent danger of extinction throughout all or a significant portion of its range. Critical habitat is not being proposed for this taxon for the reasons discussed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the taxon is listed. Critical habitat is not determinable if insufficient information exists to perform an economic impact analysis of designating a particular area as critical habitat, or if the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat (50 CFR 424.12(a)(2)).

The Service is in the process of defining critical habitat and determining more clearly what the ecological requirements and constituent elements are for the San Diego fairy shrimp. The Service may find that determination of critical habitat is not prudent for this taxon, however, at this time designation of critical habitat is not determinable.

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 activities. 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. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants and animals 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)(4) requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, 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 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.

Federal agencies expected to have involvement with the San Diego fairy shrimp include the Army Corps of Engineers and the Environmental Protection Agency due to their permit authority under section 404 of the Clean Water Act. The San Diego fairy shrimp occurs on the U.S. Navy's Miramar Air Station. This base will likely be involved through military activities or potential excessing of Federal lands.

The Act and its implementing regulations found at 50 CFR 17.21 set forth a series of prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt any of these), import or export, transport in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species of wildlife. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing such permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances involving trade, permits may be issued for a specified time to relieve undue economic hardship that would be suffered if such relief were not available. The San Diego fairy shrimp is not involved in trade, and such permit requests are not expected.

Requests for copies of the requirements and regulations on permits or trade in wildlife and plants and inquiries regarding them should be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Endangered Species Permits, 911 N.E. 11th Avenue, Portland, Oregon 97232-4181 (503/231-2063; FAX 503/231-6243).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, o other relevant data concerning any threat (or lack thereof) to this taxon;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical

habitat as provided by section 4 of the Act;

(3) Additional information concerning the range, distribution, and population size of this taxon; and

(4) Current or planned activities in the subject area and their possible impacts on this species.

The final decision on this proposal will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Field Supervisor of the Carlsbad Field Office (see **ADDRESSES** section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment or Environmental Impact Statement, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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Balko, M.L., and T.A. Ebert. 1987. Temporary pools as islands in space and time: the biota of vernal pools in San Diego, southern California, USA. Archiv fur Hydrobiologie 110:101:123.

Bauder, E.T. 1986. San Diego vernal pools, recent and projected losses; their condition; and threats to their existence 1979–1990, volume I. Prepared for the Endangered Plant Program, California Department of Fish and Game, Sacramento, California.

Ferren, W.R. and D.A. Pritchett. 1988. Enhancement, restoration, and creation of vernal pools at Del Sol Open Space and Vernal Pool Reserve, Santa Barbara County, California. Department of Biological Sciences, University of California, Santa Barbara, Environmental Report No. 13.

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Zedler, P. H. 1987. The ecology of southern California vernal pools: a community profile. U.S. Department of Interior, Fish and Wildlife Service, Biological Report 85(7.11).

Author

The primary author of this proposed rule is Fred M. Roberts, Jr., Carlsbad Field Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

PART 17—[AMENDED]

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

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.

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under CRUSTACEANS, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
•	•	•	•	•	•	•	•
Crustaceans							
•	•	•	•	•	•	•	•
Shrimp, San Diego fairy.	Branchinecta sandiegoensis.	U.S.A. (CA), Mexico	NA	E		NA	NA
•	•	•	•	•	•	•	•

Dated: July 27, 1994.

Mollie H. Beattie,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 94-18931 Filed 8-1-94; 8:45 am]

BILLING CODE 4310-55-P

50 CFR Part 17

RIN 1018-AC65

Endangered and Threatened Wildlife and Plants; Proposed Rule to List Two Plants From Southwestern California as Endangered and Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Fish and Wildlife Service (Service) proposes to list *Downingia concolor* var. *brevior* (Cuyamaca Lake downingia) as endangered and *Limnanthes gracilis* ssp. *parishii* (Parish's meadowfoam) as threatened throughout their respective ranges in southwestern California pursuant to the Endangered Species Act of 1973, as amended (Act). These species occur in vernally moist soils of montane wet meadows, near springs and seeps, or vernal pools within the Peninsular Ranges of southwestern California. These plants are imperiled by a variety of factors including alteration of wetland hydrology, cattle grazing, recreational activities, recreational development, off-road vehicle activity, and competition from exotic plant species. This proposed rule, if made final, would extend protection under the Act to these two plants. Critical habitat is not being proposed at this time. Additional data and information, which may assist the Service in making a final decision on this proposed action, is solicited on the status of these species.

DATES: Comments from all interested parties must be received by October 3, 1994. Public hearing requests must be received by September 19, 1994.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Field Office, 2730 Loker Avenue West, Carlsbad, California 92008. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Ms. Debbie Kinsinger, Botanist, at the above address (telephone 619/431-9440).

SUPPLEMENTARY INFORMATION:

Background

Downingia concolor var. *brevior* (Cuyamaca Lake downingia) and *Limnanthes gracilis* ssp. *parishii* (Parish's meadowfoam) occur in association with meadows and drainages of the Peninsular Ranges of southwestern California from the Santa Ana Mountains of extreme southwestern Riverside County, south to the Laguna Mountains of southern San Diego County, California. Both plant taxa are restricted to grassy meadows that are vernally wet (wet during the rainy season) with saturated soil conditions and shallow pools for several weeks at a time. Between the ponded areas are drier mounds, called mima mounds. This type of physiography is referred to as a montane meadow-vernal pool association.

The largest populations of both taxa are located within the Cuyamaca Valley in the Cuyamaca Mountains of central San Diego County, California. Although the vernal pool and mima mound topography is mostly obliterated, much of the unique, montane, vernal pool flora remains. This flora includes a number of disjunct species that are more frequently associated with vernal pools of coastal San Diego County or central California (e.g., *Deschampsia danthonioides* (annual hairgrass), *Blennosperma nanum* (common blennosperma), and *Delphinium hesperium* ssp. *cuyamacae* (Cuyamaca larkspur) (Beauchamp 1986a, Winter 1991)).

Historically, a depression at the southwestern end of the Cuyamaca Valley formed a small lake that dried up in the summer. This area was referred to as "Laguna Que Se Seca" (the lake that dries up) (Allen and Curto 1987). This area and the rest of the valley supported a complex of vernal pools and mima mounds. A dam was built in 1886 at the Boulder Creek outlet of Cuyamaca Lake. The dam created a permanent reservoir known as Cuyamaca Lake. A dike built in 1967 allowed water to be pumped from the reservoir so that the valley could be kept in a flooded condition throughout the summer (Ball et al., unpub. man.). In wet years, the reservoir and dike system allows the entire valley to remain flooded for extended periods (Bauder 1992). Many areas supporting these taxa have been moderately to heavily grazed in the past and some areas continue to be adversely affected by livestock and horses. For example, heavy grazing in the Laguna Mountains since the 1880's has resulted in the increased abundance of introduced annual grasses and forbs, the scarcity of organic matter, and severe gullying and erosion (Sproul 1979).

Downingia concolor var. *brevior* (Cuyamaca Lake downingia) was described by R. McVaugh (1941) based on a collection by L. Abrams at Cuyamaca Lake, Cuyamaca Mountains, San Diego County, California. Beauchamp (1986b) elevated the plant to a subspecies following the suggestions of Thorne (1978). However, Ayers (1993) also recognized this plant as *D. c.* var. *brevior* following McVaugh's (1941) treatment of this taxon.

Downingia concolor var. *brevior* is a member of the bellflower family (Campanulaceae). This plant is a low, slightly succulent annual herb, with stems 5 to 20 centimeters (cm) (2 to 8 inches (in)) long. The flowers are blue and white with a 4-sided purple spot at the base of the united petals. The fruit is 12 to 15 mm (0.5 in) long and the seeds have linear striations (lines). *D. concolor* var. *brevior* blooms from May to July and sets seed from June to August. The seeds are dispersed by flooding and require brief inundation for germination (Munz 1974, Bauder 1992).

Downingia concolor var. *brevior* can be distinguished from the only other member of this genus that occurs in southern California, *D. cuspidata*, by the form of the striations on the seed and by the color of the flower. It can be distinguished from the more northern *D. concolor* var. *concolor* by the size of the fruit and how rapidly the fruit splits open when the seeds are mature (Ayers 1993).

Downingia concolor var. *brevior* is restricted to a single population at Cuyamaca Lake in the Cuyamaca Valley of San Diego County, California on land owned by the Lake Cuyamaca Recreation and Park District. Historically, the population of *D. concolor* var. *brevior* was located throughout much of the valley floor. This population has now been largely restricted to the shore of the lake, penetrating into the valley floor during dry years. From 1988 to 1992 one population existed in the vicinity of Cuyamaca Lake, consisting of between 9 and 24 stands. Combined, these stands occupied less than 200 acres and frequently occupied less than 100 acres. The number of individuals within these stands, and the location and size of these stands vary in any given year in response to rainfall, the extent of winter flooding, and temperature (Bauder 1992).

Limnanthes gracilis ssp. *parishii* (Parish's meadowfoam) was first