

# ENDANGERED SPECIES

**Technical Bulletin** Department of interior. U.S. Fish and Wildlife Service  
Endangered Species Program, Washington, D.C. 20240

## Revised Interagency Consultation Rules Proposed

New regulations to assist Federal agencies in meeting their responsibilities under the Endangered Species Act of 1973, as amended, have been proposed (FR 6/29/83). If approved, the revised rules will formally implement amendments to the Act affecting the Section 7 interagency consultation process.

Under Section 7 of the Act, all Federal agencies are responsible for insuring that any actions they fund, authorize, or carry out are "not likely to jeopardize the continued existence of any listed species or result in the destruction or

adverse modification" of its habitat. Federal agencies whose actions may affect a listed species are required to initiate consultation with the Fish and Wildlife Service (Department of Interior) or the National Marine Fisheries Service (Department of Commerce) in order to evaluate the potential impact of the activity on Endangered and Threatened species and their habitat. If it is determined that the activity is likely to jeopardize the species or adversely affect its habitat, then "reasonable and prudent" alternatives that would avoid jeopardy and can be implemented will be

included in the biological opinion, thus allowing the activity to proceed. It should be noted that from 1979 through 1982, nearly 12,000 consultations were conducted; only about 1.5 percent resulted in findings that the action would be likely to jeopardize a listed species, and even in these few cases alternatives were agreed upon that allowed the activities to proceed.

The basic rules under which Section 7 interagency consultations have been conducted were established on January 4, 1978 [50 CFR 402(1981)]. Since then,  
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## Service Lists 17 Foreign Reptiles

The Service has listed 17 species of foreign reptiles as Endangered or Threatened under the Endangered Species Act, as amended (F.R. 6/22/83). This determination provides additional protection to wild populations of these species and allows cooperative research programs to be undertaken on their behalf.

The threats that are believed to be causing the declines of these species are habitat destruction, the introduction

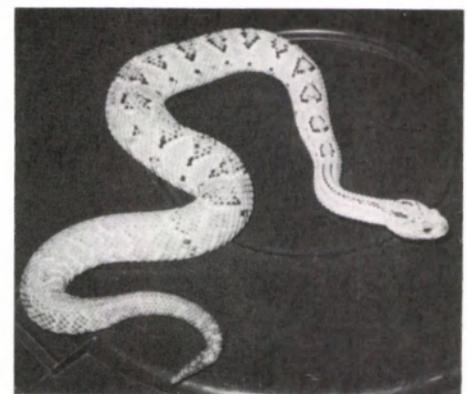
of non-native predators, exploitation as a source of human food mainly by local people, vandalism, and overcollection. These species (listed below) were proposed for listing on January 20, 1983 (see February BULLETIN for species accounts).

### Comments Received

A total of 6 comments, all from private citizens, were received during the public

comment period following publication of the proposed rule; four were completely supportive of the listing. A letter from Dr. Brian Groombridge of the IUCN Species Conservation Monitoring Unit, Cambridge, England, added new information on *Cyrtodactylus serpensisinsula*, *Gallotia simonyi simonyi*, and *Vipera latifii*. Mr. Ed Schmitt of the American Association of Zoological Parks and Aquariums (AASPA) opposed listing the Serpent Island gecko, Round Island skink, and Lar Valley viper on the basis of the lack of habitat protection afforded by a U.S. listing action; he did not question the biological basis of the proposed status. Mr. Schmitt also questioned whether the Cuban iguana would benefit from listing and stated that the species is doing well in Cuban zoos. He  
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Common Name	Scientific Name	Status
Serpent Island gecko	<i>Cyrtodactylus serpensisinsula</i>	Threatened
Acklins ground iguana	<i>Cyclura rileyi nuchalis</i>	Threatened
Allen's Cay iguana	<i>Cyclura cychlura inornata</i>	Threatened
Andros Island ground iguana	<i>Cyclura cychlura cychlura</i>	Threatened
Cayman Brac ground iguana	<i>Cyclura nubila caymanensis</i>	Threatened
Cuban ground iguana	<i>Cyclura nubila nubila</i>	Threatened
Exuma Island iguana	<i>Cyclura cychlura figginsi</i>	Threatened
Grand Cayman ground iguana	<i>Cyclura nubila lewisi</i>	Endangered
Jamaican iguana	<i>Cyclura collei</i>	Endangered
Mayaguana iguana	<i>Cyclura carinata bartschi</i>	Threatened
Turks and Caicos iguana	<i>Cyclura carinata carinata</i>	Threatened
Watling Island ground iguana	<i>Cyclura rileyi rileyi</i>	Endangered
White Cay ground iguana	<i>Cyclura rileyi cristata</i>	Threatened
Round Island skink	<i>Leiolopisma telfairii</i>	Threatened
Central American river turtle	<i>Dermatemys mawii</i>	Endangered
Aruba Island rattlesnake	<i>Crotalus unicolor</i>	Threatened
Lar Valley viper	<i>Vipera latifii</i>	Endangered



*The Aruba Island rattlesnake (above), as well as 16 other foreign reptiles, have been added to the U.S. List of Endangered and Threatened Wildlife.*

Photo by C. Kenneth Dodd, Jr.



## Regional Briefs

**Endangered Species Program regional staffers have reported the following activities for the month of June:**

**Region 1**—Only four to five California least terns (*Sterna albifrons browni*) are using the Seal Beach NWR in Orange County to forage. Earlier, a maximum of about 12 birds were seen using the refuge, but this dropped rapidly. No nesting is occurring on NASA Island

despite intense efforts to prepare the site. Currently, one or two birds have been seen around the island, but no breeding behavior, either aerial or on the ground, was observed. It appears that NASA Island has no chance this year of being used by first-wave nesters. Other sites in the southern California area are well established. Bolsa Chica, another small wetland area, has about 100 pairs, most of them on eggs. Six banded Ana-

heim Bay (NASA Island) birds are nesting at this nearby site.

A helicopter was used by Robert Parenti (FWS botanist, Boise Endangered Species Office) to survey the canyons along the lower end of the Salmon River in Idaho for an Endangered plant, the MacFarlane's four o'clock (*Mirabilis macfarlanei*) on May 25, 1983. One new population was found, and several likely habitats for MacFarlane's four o'clock were located for future surveys. This new population is estimated to have 750-1,250 plants. A field trip was also conducted by an entomologist working on MacFarlane's four o'clock to determine the importance of insect relationships with the plant. It was determined that insect studies may be of greater importance than previously thought. Much insect damage was noted. Another new population of 100+ plants was verified on June 17 by Parenti near the Imnaha River, Wallowa County, Oregon.

The cui-ui (*Chasmistes cujus*) spawning run up the lower Truckee River in Nevada began this month. The first documented fish entered the Pyramid Lake Fishway on May 16, and the first fish entered the Marble Bluff Fish Handling Building on May 21. The run rapidly increased to a peak of 928 fish on May 26. By the end of May, over 5,000 cui-ui had passed through the building. The run was still underway as of June 3, but much reduced. So far, this is the second largest run to enter the fish handling building. (The largest run occurred last year with 14,000 fish, while the previous high was in 1980 when 4,500 entered the building.)

This year's spawning run was late. Normally, the run begins during the latter part of April and peaks around the third week of May. Although this year's run was weeks late in beginning, it peaked only 6 days later than last year's run.

Considering that the Truckee River drainage contained a record snow pack and that our early spring surveys of Pyramid Lake indicated that a large mass of cui-ui had assembled near the river's mouth, we had expected an earlier and larger run of cui-ui than has materialized to date. The problem may be the unusually cold spring that accompanied the large snow pack, thereby delaying the snow-melt and creating an unusually high and cold flow in the Truckee River during May. This may have reduced the "desire" of many cui-ui to initiate their run. Those that commenced their run early only ascended the river (or fishway) a short distance before depositing their eggs. For example, we noted a large number of cui-ui in the terminal ladder of the fishway, but did not observe similar masses in the fish handling building. These fish

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### U.S. Fish and Wildlife Regions

**Region 1:** California, Hawaii, Idaho, Nevada, Oregon, Washington, and Pacific Trust Territories. **Region 2:** Arizona, New Mexico, Oklahoma, and Texas. **Region 3:** Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. **Region 4:** Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Puerto Rico, and the Virgin Islands. **Region 5:** Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and West Virginia. **Region 6:** Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming. **Region 7:** Alaska.

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# Rulemaking Actions - June 1983

## Flagstaff Pennyroyal Proposed as Threatened

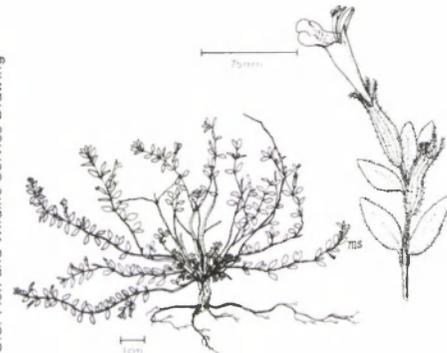
A plant native to northern Arizona, the Flagstaff pennyroyal (*Hedeoma diffusum*), has been proposed by the Service for listing as a Threatened species (FR 6/29/83). Habitat destruction has already reduced the plant's population and range, and potential urban development could further jeopardize its chances for survival.

*Hedeoma diffusum*, a member of the mint family, was first collected in 1883 near Flagstaff, Arizona, and was described by E.L. Green in 1898. It is endemic to the Flagstaff area, and is restricted today to 10 known sites. Habitat for the plant has been reduced by urbanization, and the city is forecast to almost double in population by the year 2000. The remaining habitat could easily be lost through further development or growing recreational pressures on the area. *Hedeoma diffusum* is found on rock outcroppings within mature ponderosa pine (*Pinus ponderosa*) communities, and limited field observations indicate that forest disturbance, for example by silviculture, may be another threat.

### Effects of the Rule if Adopted

Although some of the *Hedeoma diffusum* habitat is within the Coconino National Forest, the effects of a listing on the U.S. Forest Service (USFS) and other Federal agencies are expected to be minimal. The USFS regulations governing lands upon which Threatened, Endangered, rare, or unique species occur (36 CFR 261.9) will apply to *Hedeoma diffusum* if the listing is approved. Critical Habitat has not been

proposed at this time since the attractive plant is vulnerable to collection for rock gardens and is usable for herb tea. Publication of Critical Habitat maps would pinpoint the remaining populations, greatly increasing the threats to the plant. Some of the *Hedeoma diffusum* populations are on private lands where taking could not be prohibited. It should be emphasized, however, that even without a formal Critical Habitat determination, all habitat conservation measures authorized in Section 7 of the Endangered Species Act would apply. Federal agencies would be required to insure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of *Hedeoma diffusum* by directly affecting the plant or by modifying its habitat.



*The Flagstaff pennyroyal is a perennial herb that forms circular, low mats with numerous shoots. The plant's leaves are opposite and very small, and its small blue flowers are borne in clusters of one to three.*

All trade prohibitions under Section 9(a)(2) of the Act, as implemented by 50 CFR 17.71, also would apply to *Hedeoma diffusum*, making interstate and international trafficking in this plant illegal. Seeds of cultivated specimens of Threatened plants are exempt from all provisions of 50 CFR 17.61, but *Hedeoma diffusum* is not common in cultivation. With regard to taking, Section 9(a)(2)(B) of the Act, as amended in 1982, makes it unlawful to remove and reduce to possession Endangered plants from areas under Federal jurisdiction. Section 4(d) provides for the application of these prohibitions to Threatened species through regulations, and this provision will apply to *Hedeoma diffusum* once new regulations are developed and permits for excepted actions are provided for. Certain exceptions will apply to Service agents or State conservation agencies, and 50 CFR 17.72 provides for the issuance of permits to carry out otherwise prohibited activities under certain circumstances. It is anticipated, however, that few taking permits for this plant will ever be requested.

### Public Comment Requested

Comments on the proposal are requested from all interested individuals, organizations, and agencies, and should be received by the Regional Director, U.S. Fish and Wildlife Service, 500 Gold Avenue, S.W., P.O. Box 1306, Albuquerque, New Mexico 87103, by August 29, 1983. Requests for a public hearing should be received by August 15, 1983.

## A Colorado Wild-Buckwheat Proposed With Critical Habitat

The Service proposed to list as Endangered *Eriogonum pelinophilum* (clay-loving wild-buckwheat) and to determine its Critical Habitat (F.R. 6/22/83). Only one population, with 800-1000 individuals, is known. This 100-acre site is on private land in Delta County, Colorado.

All vegetation on the land adjacent to the only known population has been eliminated subsequent to being fenced and used for horse corrals and grazing. The area of the clay-loving wild-buckwheat is under imminent threat of similarly being fenced off and used, probably causing the loss of the species.

*Eriogonum pelinophilum* was first collected by Harold Gentry in 1958; however, the distinctiveness of his collection was not recognized until Dr. James Reveal conducted an analysis of the species group in the early 1970s. Reveal made repeated searches before he relocated the site from which the plant was

originally collected. The published the description of the new species in 1973. Additional locations have not been found despite extensive field searches.

*Eriogonum pelinophilum* is a low, rounded subshrub only 4 inches high and 4-8 inches wide that bears clusters of small white to cream flowers. It is apparently restricted to a band of whitish soil within the badlands.

If this plant is listed as Endangered, certain conservation authorities would become available and protective measures may be undertaken for it. These would include increased management of the species and its habitat, the possibility of land acquisition if necessary through Section 5 of the Act, the use of Federal and State funds for the species since Colorado has a plant cooperative agreement under Section 6(c)(2) of the Act, and the development of a recovery plan for the species as specified in Section 4(f).

If the species is listed, the Service will also review it to determine whether it should be placed upon the Annex of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, which is implemented

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*Only one population of the clay-loving wild-buckwheat is known to exist.*

## Rulemaking Actions Continued

### Initial Findings on Petitions Announced

Initial findings were published (F.R. 6/14/83) on the substantiality of information for certain petitions received by the Service since February 15, 1983. The 21 species included in the petitions are listed below, along with other information about the petitions.

The Endangered Species Act Amendments of 1982 [Section 4(b)(3)(A)] require that the Service make a finding whether a petition to list, reclassify, or delist a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. To the maximum extent practicable, this finding is to be made within 90 days of receipt of the petition, and the finding promptly published in

the *Federal Register*. When a positive finding is made, the Service is required to promptly begin a review of the status of the species, and to decide within 12 months of petition receipt whether the requested action is warranted in accord with Sections 4(b)(3)(B) or 4(b)(3)(D)(ii) of the Act, as amended.

For the 17 fishes, the alligator snapping turtle, and ferruginous hawk for which findings were made, the required status review began with the December 30, 1982, vertebrate notice of review. For the Schaus swallowtail butterfly, the required status review began with the 5-year notice of review published February 27, 1981. For the southern sea otter, the required status review began with

the 5-year notice of review published September 27, 1982.

The Service is soliciting data concerning the 20 species now under petition for listing and reclassification. Especially sought is information regarding taxonomy, distribution, any recommended Critical Habitat for the native species, and threats. Comments received will be considered in any future actions for the taxa. They should be sent to the Associate Director - Federal Assistance, U.S. Fish and Wildlife Service (OES), Department of the Interior, Washington, D.C. 20240. Findings on petitions received prior to February 15, 1983, were published in the February 15, 1983, *Federal Register*.

#### Evaluation of Petitions

Species	Action	Petitioner	Date	Substantial Information
Desert dace, <i>Eremichthys acros</i>	List	Desert Fishes Council	4/12/82	Yes
Hutton Spring tui chub, <i>Gila bicolor</i> ssp.	do	do	do	do
Fish Creek Springs tui chub, <i>Gila bicolor euchlla</i>	do	do	do	do
Owens tui chub, <i>Gila bicolor snyderi</i>	do	do	do	do
Yaqui chub, <i>Gila purpurea</i>	do	do	do	do
White River spinedace, <i>Lepidomeda albivallis</i>	do	do	do	do
Big Spring spinedace, <i>Lepidomeda mollispinis pratensis</i>	do	do	do	do
Little Colorado spinedace, <i>Lepidomeda vittata</i>	do	do	do	do
Pecos bluntnose shiner, <i>Notropis simus pecosensis</i>	do	do	do	do
Foskett Spring speckled dace, <i>Rhinichthys osculus</i> ssp.	do	do	do	do
Modoc sucker, <i>Catostomus microps</i>	do	do	do	do
Warner sucker, <i>Catostomus warnerensis</i>	do	do	do	do
June sucker, <i>Chasmistes liorus mictus</i>	do	do	do	do
White River springfish, <i>Crenichthys balleyi baileyi</i>	do	do	do	do
Hiko White River springfish, <i>Crenichthys balleyi grandis</i>	do	do	do	do
Railroad Valley springfish, <i>Crenichthys nevadae</i>	do	do	do	do
Desert pupfish, <i>Cyprinodon macularius</i>	do	do	do	do
Schaus swallowtail butterfly, <i>Papilio aristodemus ponceanus</i>	Reclassify	Florida Game and Freshwater Fish Commission	2/23/83	do
Alligator snapping turtle, <i>Macroclemys temmincki</i>	List	Dr. Peter C.H. Pritchard	2/23/83	do
Southern sea otter, <i>Enhydra lutris nereis</i>	Reclassify	Friends of the Sea Otter	5/01/83	do
Ferruginous hawk, <i>Buteo regalis</i>	List	Mr. Thomas Thurow	5/10/83	No

### NMFS Publishes Petition Findings

The National Marine Fisheries Service (NMFS) has received several petitions to add certain species to the U.S. List of Endangered and Threatened Wildlife. As required by Section 4 of the Endangered Species Act of 1973, as amended, these findings were recently published (F.R. 6/3/83).

NMFS has determined that petitions concerning the pea crab (*Parapinnixia affinis*); large summer-run steelhead trout (*Salmo gairdneri*), in California; and the monoplacophoran mollusc (*Vema hyalina*) do not present substan-

tial scientific or commercial information indicating that the petitioned actions may be warranted. NMFS will not, therefore, conduct reviews of the status of these species.

NMFS also determined that the petition concerning the Gulf of California harbor porpoise (*Phocoena sinus*), submitted by Defenders of Wildlife, does present substantial scientific information indicating that the petitioned action may be warranted. Therefore, NMFS has begun a review of the status of this species.

To insure that the review of *Phocoena sinus* is comprehensive, NMFS is soliciting information and data concerning its status. All information should be sent by August 2, 1983, to the Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Washington, D.C. 20235.

For more details regarding the requirements of Section 4 of the Act and the mandated acknowledgement of petitions, please see the story in this issue regarding petitions submitted to the Fish and Wildlife Service.

## Buckwheat

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through Section 8A(e) of the Act, and whether it should be considered for other appropriate international agreements.

### Background

Actions leading to Federal protection for the clay-loving wild-buckwheat began in 1973 with the inclusion of plants in the Endangered Species Act. Section 12 of the 1973 Act directed the Smithsonian Institution to compile a report on endangered, threatened, and extinct plant species. The resulting 1975 report included the clay-loving wild-buckwheat; the report was treated as a petition by the Service, and its main lists published as a notice of review on July 1, 1975. This action was followed on June 16, 1976, by a proposal to list a number of plants, including this wild-buckwheat. One other wild-buckwheat (*Eriogonum gypsophilum*) is listed as a Threatened species, and over 50 other *Eriogonum* are candidates petitioned for listing (January 1981 Bulletin).

Due to subsequent requirements of the 1978 Amendments to the Endangered Species Act, the 1976 proposal was withdrawn. Further amendments in 1982 placed a new deadline of October 13, 1983, on pending petitions; proposal of this species before the deadline satisfies the petition requirement (March 1983 Bulletin). The plant is now re-proposed on the basis of confirming field work done with the plant in summer 1981. The same rule proposes Critical Habitat for the first time.

Since the proposed Critical Habitat is on private land, there would be no impact from the designation on fencing or other private actions, because Section 7 of the Act regulates only Federal activities. The Service has prepared a preliminary economic impact analysis. The tentative conclusion of this analysis is that designation of Critical Habitat for the species will have no economic impact on any private persons, businesses, or governmental agencies and that no known Federal activity is ongoing or anticipated that will affect the proposed area. Similarly, taking prohibitions for plants are now limited to areas under Federal jurisdiction.

Comments and materials concerning the proposal to list this plant as Endangered with Critical Habitat should be sent, preferably in triplicate, to the Regional Director, U.S. Fish and Wildlife Service, P.O. Box 25486, Denver, Colorado 80225. Comments from the public and the State of Colorado must be received by August 22, 1983. Public hearing requests must be received by August 8, 1983.

## Woodland Caribou Proposed as Endangered

The only population of caribou that still regularly occurs in the conterminous United States, sometimes known as the southern Selkirk Mountain herd, has been proposed by the Service for final listing as an Endangered species (F.R. 6/22/83). This very small herd is found only in parts of northeastern Washington, northern Idaho, and southern British Columbia, Canada. Although the population was designated Endangered on January 14, 1983, under the emergency listing authority in Section 4 of the Endangered Species Act, that action was temporary and it expires on September 12, 1983 (see the January 1983 BULLETIN). The proposed final listing would give permanent protection to the herd.

It now appears that the southern Selkirk Mountain population of the woodland caribou (*Rangifer tarandus caribou*) has become the most critically jeopardized mammal in the United States. In recent years, its numbers have declined to 13-20 animals, and the premature loss of a single individual could be disastrous to the herd. Currently, the population is threatened by: (1) logging of old growth forests that bear lichens, the major part of the caribou's winter diet; (2) vehicle collisions along forest roads used by loggers, miners, and recreationists; (3) illegal hunting; and (4) a lack of recruitment from other herds, which may have caused the southern Selkirk Mountain population to suffer ill effects of inbreeding. Among the benefits to the herd of final listing as Endangered would be to augment the caribou conservation measures now being employed by the U.S. Forest Service, ensure that the needs of the caribou and its habitat are considered in

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## CITES NEWS—July 1983

*The Endangered Species Act of 1973, as amended in 1979, designates the Secretary of the Interior as both the Management Authority and the Scientific Authority of the United States, for the purposes of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Management Authority responsibilities are delegated to the Associate Director - Federal Assistance; Scientific Authority responsibilities are delegated to the Associate Director - Research.*

*The Service's Wildlife Permit Office (WPO) functions as staff to the U.S.*

*Management Authority for CITES, assuring that wildlife and plants are exported or imported in compliance with laws for their protection and issuing permits for legal trade of these species. The Service's Office of the Scientific Authority (OSA) functions as staff to the U.S. Scientific Authority for CITES. OSA reviews applications to export and import species protected under CITES, reviews the status of wild animals and plants impacted by trade, makes certain findings concerning housing and care of protected specimens, and advises on trade controls.*

## Service Seeks Data on Ginseng Status

The Service has announced its intention to propose findings on the export from this country of American ginseng (*Panax quinquefolius*) taken during the 1983 season (F.R. 6/9/83). The notice requests comments on the guidelines now being used to determine export findings, and current information on the species involved. The notice also requests information on environmental and economic impacts that might result from the findings and information on possible alternative approaches to meeting CITES requirements. All comments must be received by July 11, 1983.

Interested persons should consult the above *Federal Register* for the listing of criteria currently used to determine whether export will be detrimental to the species. Additional criteria used to determine if State programs qualify for export approval are also listed at the same citation.

Until recently, ginseng export findings have been made annually on a State-by-State basis. In 1982, (F.R.

10/4/82), the Service began to make multi-year findings for the export of American ginseng. It issued findings covering the 1982-1984 seasons allowing export from the following States on the grounds that all export criteria had been met: Georgia, Kentucky, Minnesota, North Carolina, Vermont (artificially propagated only), and Virginia. In the same notice, the Service approved export of American ginseng lawfully taken only during the 1982 season for the following States that did not meet all the criteria: Arkansas, Illinois, Indiana, Iowa, Maryland, Ohio, Missouri, Tennessee, West Virginia, and Wisconsin. As announced, States approved for the export of only 1982 harvested ginseng will not be granted further export approval until an acceptable ginseng program is developed.

All correspondence concerning this notice should be sent to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

# RECOVERY PLANS APPROVED

## California Brown Pelican

Brown pelicans are large, fish eating birds occurring along portions of the coastal United States, Mexico, and various countries south to Brazil and Chile. The California brown pelican (*Pelecanus occidentalis californicus*) can be distinguished from the eastern (U.S.) subspecies (*P. o. carolinensis*) by its larger size and darker hindneck while in breeding plumage. It also lays larger eggs and typically has a bright red gular pouch during the courtship/egg-laying period, coloration rare in the eastern subspecies. The brown pelican in North America declined sharply throughout most of its historical range during the 1950's and 1960's due to habitat modification, disturbance, and, most significantly, environmental contamination in the form of pesticide residues. In 1970, the brown pelican was listed by the Fish and Wildlife Service as an Endangered species. The California subspecies was further protected in 1971 when the California Fish and Game Commission classified it under State law as Endangered.

The California Brown Pelican Recovery Plan, approved February 3, 1983, delineates steps and procedures believed necessary to return the subspecies to a stable, secure status. In part, it acknowledges and incorporates conservation measures that have been in effect since 1970. Although the plan addresses the entire subspecies, it deals primarily with the northern population, referred to in the plan as the Southern California Bight (SCB) population, which has shown the most serious decline. Other populations of the California brown pelican, those nesting in the Gulf of California and along the coast of Baja California, have not suffered the colony-wide reproductive failures experienced by the SCB colonies. The plan does, however, take into account the growing threat of human disturbance to these southern populations. It was written under contract to the Service by Franklin Gress and Daniel W. Anderson, University of California - Davis. (A separate recovery plan for the eastern brown pelican along the Atlantic and Gulf of Mexico Coasts was signed in 1979).

### Population Limiting Factors

Throughout its total range, the California brown pelican may number about 55,000-60,000 pairs. The largest breeding group by far is located on islands in the Gulf of California. Colonies on these islands comprise approximately 68 percent of the subspecies' total breeding numbers. The SCB colonies make up about 6 percent since the decline in this population. Brown pelicans in the SCB historically have nested on the islands of

Los Coronados, Todos Santos, and San Martin along the northwestern coast of Baja California, and on several of the Channel Islands off southern California. Among the Channel Islands, nesting has been recorded from the following islands and their outlying islets: Anacapa Island, Santa Barbara Island (including Sutil Island), Santa Cruz Island (including Scorpion Rock), and San Miguel Island (including Prince Island), which now are all part of the Channel Islands National Park. Anacapa and Los Coronados historically have had the largest and most consistent brown pelican colonies in the SCB.

Nesting habitat varies throughout the range of the California brown pelican, and the birds use whatever vegetation is available for nest building. They are colonial nesters, and require nesting grounds that are free from mammalian predators and human disturbance. Destruction of nesting habitat within the SCB is not a major problem at this time since the Channel Islands and Los Coronados remain essentially natural; however, there is currently little formal protection for most colonies on the islands along northwestern Baja California. Some islands in the Gulf of California are designated refuges, but better protective enforcement is needed.

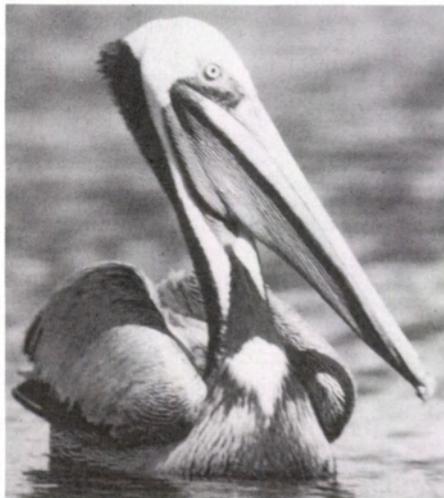


Photo by Franklin Gress

Throughout its total range, the California brown pelican may number about 55,000-60,000 pairs.

Offshore habitat in a zone within 30-50 kilometers of a colony site is essential for brown pelicans. Like most seabirds, pelicans are dependent on nearby food resources, especially during the breeding season. The concept of offshore sanctuaries for seabird colonies is becoming increasingly more important with the rapid use and development of coastal zones. Human activities poten-

tially detrimental to seabirds include net fishing, petroleum development, dredging, contaminant discharge, and shipping and air traffic. Sanctuaries could provide a buffer zone around colony sites, but would not give complete protection to the mobile food sources. Essential brown pelican habitat also includes roosting and loafing areas. Unfortunately, many of these are being lost or are becoming subject to increasing human disturbance. Estuarine habitat, which includes roosts for pelicans, is extremely reduced along the California coast. Less than 20 percent of the original salt marshes along the California coast are left.

In 1968, the Smithsonian Institution Pacific Ocean Biological Survey Program conducted a survey of seabirds breeding on the Channel Islands and Los Coronados, and found pelicans breeding only on West Anacapa Island. No nesting was observed on the other islands. Not only had the numbers drastically declined, but there also was lower reproductive success. Studies the following year found the colony site littered with thin, broken eggshells. Chemical analyses of the egg contents revealed high concentrations of DDT compounds, particularly the principal isomer DDE. The primary reason for the decline in the California brown pelican was shown to be the nearly total reproductive failure (in the SCB colonies only) caused by excessive thinning of eggshells, a physiological response to high DDT levels in the late 1960's and early 1970's. In fact, levels of DDT compounds in the southern California marine environment were among the highest recorded for any coastal ecosystem worldwide.

Although the introduction of DDT compounds into the SCB decreased dramatically after 1970, depressed productivity from eggshell thinning continued through at least 1974. The ecological effects of DDT contamination are now stabilized from an acute to a chronic, low level; incidences of eggshell thinning also still occur, and complete recovery of reproductive potential has not yet occurred in the SCB.

The plan states that, since 1974, food availability has been the most important limiting factor influencing pelican breeding success. Studies of the SCB pelicans' prey base show the birds currently to be almost entirely dependent on the northern anchovy (*Engraulis mordax*), and fluctuations in pelican productivity have been associated with anchovy availability and/or abundance. Therefore, commercial anchovy harvests have the potential to affect the population dynamics of the pelican. So far, the commercial fishery has had little impact on the SCB pelican population. But increased taking of anchovies could

have an effect on pelican recovery. Close coordination is needed between fishery and wildlife management agencies to monitor the situation as it develops.

Historically, the California brown pelican may have had a wider prey base than today and switched to the anchovy when its primary prey became unavailable. For example, the Pacific sardine (*Sardinops sagax*), formerly abundant in the SCB, probably was an important prey species to the pelican until the fish greatly declined along the California coast. The remaining sardine population should be monitored for the possibility that it could recover in the future and help give the pelican a wider, more stable prey base.

The Santa Barbara Channel is a site of offshore petroleum drilling, and the hazards to wildlife of this activity are well documented. Petroleum activity in the SCB has increased over the years. Offshore tracts near Anacapa Island are being offered for bid, posing a potential threat to the island's important brown pelican colony.

#### Recovery Actions

The primary objective of the recovery plan is to maintain stable, self-sustaining populations throughout the subspecies' range in both Mexico and California. This goal will include the

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Copies of these plans, and all approved recovery plans, will be made available for purchase from the Fish and Wildlife Reference Service, Unit j, 3840 York Street, Denver, Colorado 80205-3536 (800/525-3426). A 4-to-6 month printing time must be allowed following the date a recovery plan is approved by the Director, before copies may be available. A delay should be expected when ordering newly approved plans.

## Yuma Clapper Rail

The Yuma clapper rail (*Rallus longirostris yumanensis*) breeds in marshes along the Colorado River from the Nevada/California border south to the Colorado Delta region of Mexico. Results of surveys between 1969 and 1981 indicate that the subspecies is fairly stable at about 1,700 to 2,000 birds.

On February 4, 1983, the Service approved the Yuma Clapper Rail Recovery Plan. Its purpose is to provide natural resources management agencies and conservation groups with background information on the subspecies, and to point out new or ongoing tasks needed to achieve eventual Federal delisting.

The rail was listed as Endangered in 1967, when little published information was available on the bird. For at least the past 12 years, prior to recent flooding along the Colorado River, the rail's breeding population in the United States was believed to be stable. The recovery plan recommends that the bird be considered for reclassification.

However, due to extreme flood conditions along the Colorado River, no action will be taken to reclassify the Yuma clapper rail until its status is reassessed. Rail reproduction was probably seriously impaired by runoffs along the Colorado River during the late spring and early summer of this year. The magnitude of the runoffs was nearly three times the normal water flow.

The Yuma clapper rail breeds in freshwater marshes in the United States as well as in brackish waters of Mexico, and the bulk of the birds probably winter in salt and brackish waters in Mexico. It is believed that originally the subspecies was not distributed along the Colorado River, but that it expanded its range northward with the creation of suitable marsh habitat associated with dam development. (Regulated water releases

in the lower Colorado River slowed and stabilized river flow sufficiently to allow sedimentation and the development of cattail (*Typha latifolia*) and bulrush (*Scirpus acutus*) marshes.

A top priority on the list of recovery actions is to determine where the rail winters and to determine any possible



Photo by Roy E. Tomlinson, U.S. Fish and Wildlife Service

Little is known about the migratory behavior of the Yuma clapper rail.

threats to that habitat. Although it is not known for sure, most rail authorities believe that the subspecies winters from the Delta southward along the coast of Mexico. Other recovery objectives include the development of management plans for Federal and State controlled breeding areas, as well as written agreements to protect wintering and breeding habitat, with U.S. and Mexican agencies having responsibility for this clapper rail and its habitat.

Copies of the Yuma Clapper Rail Recovery Plan are available from the Fish and Wildlife Reference Service. For more information on the plan, contact the Albuquerque Regional Director (see page 2 for address).

by housing developments before the locations were revisited in 1975. A Rutherford County site was destroyed between 1967 and 1976. Several of the extant populations that are privately owned are similarly threatened by rapidly spreading development.

All of the known natural colonies, past and present, are on cedar glades areas where the limestone bedrock is exposed or covered by a very thin layer of soil. Plants living in this harsh dry environment have evolved special adaptations to overcome the effect of extremes in light, temperature, and moisture that are typical of the cedar glades. Recent research suggests that certain environmental and genetic factors that might be impeding the coneflower's growth and reproduction. Basic ecological research still needs to be done on the plant.

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## Tennessee Coneflower



Photo by Dr. Paul Somers

The greatest threat to the survival of the Tennessee coneflower is habitat destruction.

The Tennessee Coneflower Recovery Plan, approved by the Service on February 14, 1983, cites habitat destruction as the greatest threat to the survival of *Echinacea tennesseensis*. Only five populations of the plant are known, all located within 14 miles of one another in Davidson, Rutherford, and Wilson Counties, Tennessee.

The number of plants in each of the five extant populations varies from one to hundreds; one of the populations includes two separate colonies of the plant. About half of the colonies are on public land administered by the Tennessee Department of Conservation.

Historical records exist of additional colonies within the same general area; two colonies were found in Davidson County in 1972, but both were destroyed

## Foreign Reptiles

*Continued from page 1*

also noted that the iguana had been released in Puerto Rico.

Whether a species will immediately benefit from Federal listing is not a criterion for listing; hence, the Service believes that listing the Serpent Island gecko, Round Island skink, and Lar Valley viper is justified. In addition, the fact that many species in trouble in the wild survive well in captivity does not take away the need for protection in the wild. This rule does not apply to the iguana population in Puerto Rico, since it is not native to that country, but resulted from

## Coneflower

*Continued from page 7*

All of the known coneflower localities have been affected to some degree by man's activities, including grazing and mowing. The exact impact of these activities is not documented beyond casual observation. It is known, however, that the coneflower can survive these practices to a limited degree, and that the plant is probably enhanced by some types of disturbance. A horticultural demand for the coneflower could develop in the future, as a result of its recognition as a rare species. This could become a serious threat to natural populations if other sources of seed are not developed.

The Tennessee Coneflower Recovery Plan was prepared by the Tennessee Coneflower Recovery Team. The overall goal of the recovery plan is to establish five secure wild populations of the coneflower, each with three self-sustaining colonies. (A colony will be considered self-sustaining when there are two juvenile plants for every flowering one.)

To achieve this goal, the recovery plan calls for the preparation and implementation of management plans for the population sites. In addition, it calls for systematic searches for new colonies, protection plans for each known colony, a system for providing seed for experimental colonies that will not disturb natural populations, the establishment of new colonies, and public education projects.

The recovery plan recommends that research on the coneflower be done by experimenting with management techniques on newly established colonies (not on existing natural colonies). Activities recommended in the plan include experimental burns, test grazing, and removal of competing plant taxa. Since the plan was completed, the Tennessee Department of Conservation has seeded three sites on state-owned land in order to establish new colonies.

Propagation work on the coneflower was begun by Dr. Robert Farmer at the

the accidental release of zoo animals at La Paraguera.

Both Mr. Schmitt and Mr. Hugh Quinn questioned the listing of the Aruba Island rattlesnake, on the basis that listing would inhibit captive breeding and the development of a species survival plan and regional studbook under the auspices of the AAZPA. However, one of the purposes of listing is to encourage captive propagation if for conservation purposes, and many such programs are underway for a wide variety of species on the U.S. List of Endangered and Threatened Wildlife and Plants. Rather than inhibiting conservation, listing should encourage the development of a

Tennessee Valley Authority (TVA) in 1978. About 500-1,000 plants now growing at the TVA nursery were started from seeds taken from the wild. A number of juvenile plants (1-2 years old) were transferred from TVA's nursery to Cheekwood Botanic Garden and the Warner Nature Center, both in Nashville. TVA's program was terminated in 1980, and the remaining plants may also need to be transferred.

A number of private landowners have obtained seeds and are successfully growing the plant in their home gardens. The Tennessee Native Plants Society has dispensed some seeds through its seed exchange program. Members of the Hobby Greenhouse Association have begun assisting with the propagation of the coneflower as a part of their

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## Brown Pelican

*Continued from page 7*

assurance of long-term protection of adequate food supplies and essential nesting, roosting, and offshore habitat. The involvement of Mexico in the recovery program is emphasized; the plan calls for a joint FWS/Fauna Silvestre (Mexico's wildlife agency) management plan to protect the pelican population and habitat in the Mexican portion of the bird's range, as well as an expanded research and public education effort.

In the SCB, human disturbance at important nesting colony sites would be minimized by continuing the access restrictions at West Anacapa Island and increasing offshore habitat conservation. Formal protection would be extended to Scorpion Rock. Control over air and sea traffic near Anacapa Island also is advocated under the plan. In addition to nesting areas, roosting sites require special attention. To conserve the pelican's food supply, the National Marine Fisheries Service is considering the needs of the brown pelican and other wildlife in establishing new harvest quotas in a proposed major amendment to the Anchovy Fishery

species survival plan and studbook.

Sections 8(a), (b), and (c) of the Act authorize, in part, financial assistance to encourage foreign programs, and to provide assistance in the form of personnel or training of personnel, in order to promote the conservation of listed species that are not native to the U.S. Under this provision, the Service has assisted cooperative research activities on listed species in a number of localities, including Mexico and Ecuador. It is possible that a conservation plan for the Aruba Island rattlesnake could be developed in cooperation with authorities in the Netherlands Antilles. The Service believes that the biological data warrant listing of the rattlesnake as proposed.

Management Plan. While these measures are being carried out, the remaining effects of disturbance, anchovy fishing, pesticide contamination, oil development, and other relevant factors will be monitored and the success of the recovery program continuously evaluated.

Copies of the California Brown Pelican Recovery Plan will be available from the Fish and Wildlife Reference Service. Details on the plan and its implementation can be obtained from the Portland Regional Director (see page 2 for address).

## First Known Female California Condor in Captivity

The future of the California condor (*Gymnogyps californianus*) captive propagation program received a big boost recently when blood tests revealed that the second of the four chicks hatched this spring at the San Diego Zoo is a female. This is the only known female California condor in captivity. As of July 6, only the first two chicks hatched at the zoo had been tested, and the remaining two were scheduled for testing soon. All four young birds are doing very well and are gaining weight. The age at which California condors begin breeding is not known, but is estimated at about 6-10 years. Condor biologists hope to be able to breed the birds in captivity for future release of their young into the wild.

There is more good news: another condor chick hatched in the wild on July 1. It is being well cared for by its natural parents and appears to be vigorous. The chick hatched from the pair's third egg of the season. (Their first egg was taken to the San Diego Zoo, where it hatched, and the second was broken during incubation by the adults.) This brings the known hatching success for this year to four at the San Diego Zoo and two in the wild.

## Regional Briefs

Continued from page 2

simply did not continue up the 3-mile fishway to the handling building.

Project personnel are continuing to monitor spawning behavior and success of those fish that were passed up-stream of Marble Bluff Dam. About 30 fish are being tracked by radio-tag transmissions to locate their spawning sites. Once their sites are found, the depth and velocity characteristics of the water will be measured. Hatching success will be monitored by collecting out-migrating larvae in plankton nets.

**Region 2**—The Mexican Government recently donated 2,000 eggs and 20 hatchlings of the Endangered Kemp's ridley sea turtle (*Lepidochelys kempii*) to the U.S. Government. The eggs and hatchlings were then transferred to Padre Island National Seashore in Texas for the 5th year of a 10-year project. Last year's hatchlings were released by the National Marine Fisheries Service last month in the Gulf of Mexico off Padre Island. Over 50 have now been recovered after they washed up on the beach with lumps of tar lodged in their mouths and gullets. A few of the stranded turtles were dead, but most have been cleaned up and re-released. Work is underway to evaluate this newly discovered threat.

This year's severe flooding along the Colorado River will probably be a disaster for Yuma clapper rail (*Rallus longirostris yumanensis*) production. Normal flows of 17,000 cubic feet per second (cfs) have been replaced by flows of around 40,000 cfs. The peak nesting season for Yuma clapper rails usually occurs during the last half of June. In all likelihood, eggs and young will be lost. The amount of damage to the rail population cannot be determined until next spring.

This spring's peregrine falcon (*Falco peregrinus*) trapping effort on Padre Island, Texas, was especially successful for Ken Riddle and his crew, as 135 peregrines were caught. (The same level of effort last spring yielded only 93 peregrines.) This spring's catch consisted of 93 adult females, 8 adult males, 30 second-year females, and 4 second-year males. Twenty-one of the 135 birds were recaptures. One recovery this spring was from the Colville River, Alaska, where the bird was banded as a nestling last summer.

The bald eagle (*Haliaeetus leucocephalus*) population on the Salt and Verde Rivers in Arizona had another productive breeding season—13 young fledged from 7 nests this year. This is comparable to the 14 young produced in 1981 and 1982. There was a record number of nesting attempts this year (12), with at least 23 eggs laid and 17 young hatched.

Of special interest in the Arizona bald eagle population this year was an instance of mate replacement during the incubation period at one nest site. Following 3 weeks of normal incubation by both adults, one bird, presumably the male, disappeared. A banded subadult bald eagle appeared in the vicinity the next day. The female continued to incubate without interruption for 6 consecutive days. On the 7th day, and each day thereafter, she left the nest unattended during the afternoon for up to an hour, presumably to forage. The male occasionally flew to the nest, sometimes with a fish, only to be rebuffed by the incubating female. Finally, 2 weeks after his first appearance and at the time of hatching, the male took over nest-tending duties for the first time during the female's absence. Three young were later fledged from this site. Nine have fledged from this territory during the past 3 years, making it the most productive bald eagle site in the Southwest. The foregoing observations confirm the existence of nonbreeding subadult/adults in the population and indicate bald eagles can establish a new pair bond within a 2-week period.

**Region 3**—A meeting was held recently with various conservation organizations and Federal and State agencies on initiating a study of public attitudes about the eastern timber wolf (*Canis lupus lycaon*) in Minnesota . . . A presentation on endangered species was given at a meeting hosted by the Minnesota Chapter of the Society of American Foresters . . . Iowa and Wisconsin both recently passed tax check-off programs for non-game wildlife . . . Planting of jack pines (*Pinus banksiana*) for the Kirtland's warbler (*Dendroica kirtlandii*) is going well with the excellent weather. These Endangered birds nest only in the lower peninsula of Michigan in immature jack pine stands. The warbler census is complete with 213 singing males . . . A population of Iowa Pleistocene snails (*Discus macclintocki*) has been located in Illinois. A survey for the snail is going on in Wisconsin, and Iowa will be conducting a survey with Section 6 cooperative funds . . . Four new Illinois mud turtles (*Kinosternon flavescens spooneri*) have been reported from a site located last year in Illinois . . . Six eastern timber wolves in northern Wisconsin have been fitted with radio collars, and the State is entering into an agreement with Michigan to study the wolf along their common border.

**Region 4**—A survey of potential habitat for the paleback darter (*Etheostoma pallidorsum*) during its spawning season located two additional spawning sites. Young-of-the-year darters were observed at a third location, but the

spawning site could not be identified. This candidate species spawns in spring seeps and flooded pastures. Prior to this survey, only one spawning site was known. This darter occurs in the Caddo River in Montgomery County and in a small tributary of the Ouachita River in Garland County, both in Arkansas. Additional surveys are planned for this summer in our status review of the paleback darter.

The National Audubon Society's research center in Tavernier, Florida, informed the Service that its preliminary census of wood stork (*Mycteria americana*) nesting in Florida and Georgia located about 3650 pairs nesting in 21 Florida and 2 Georgia rookeries.

**Region 5**—During June, two trips were made to pick up bald eagles from Canada, where the birds are more numerous, for translocation to the United States. First, Paul Nickerson and Clyde Bolin went to the Cape Breton area of Nova Scotia and received four eaglets taken by biologists and climbers of the Provincial Wildlife Division, Department of Lands and Forests. These young birds were then flown to New Jersey for restocking into the wild. Later, Nickerson and a crew from the Pennsylvania Game Commission traveled to Saskatchewan where 12 eaglets were taken for relocation in Pennsylvania. This was a joint project of the FWS, State of Pennsylvania, and Saskatchewan Department of Tourism and Natural Resources (Wildlife Branch). The cooperation and hospitality of the Canadians was outstanding.

The Furbish Lousewort Recovery Plan was signed in June by the Regional Director.

**Region 6**—A total of two juvenile Wyoming toads (*Bufo hemiophrys baxteri*) have now been found in the Laramie Basin. The toads, which will measure less than 2 inches long as adults, are now being held at the University of Wyoming facility in Laramie. Wyoming received \$10,000 in Section 6 funds earlier this year to conduct surveys for the toad. The Wyoming Game and Fish Department, the University of Wyoming, and the FWS began searching in June but failed to turn up any adult toads. The search was discontinued due to the end of breeding season, which is the only period when adults are calling and can be detected. The Wyoming toad, a subspecies related to the Canadian toad, is known only from an area in Albany County, Wyoming. By 1979, the subspecies was extremely rare. No adults have been seen or heard since 1981. The Wyoming toad has been proposed for listing as Endangered.

The Colorado River Fishes Recovery Team met June 21-23 in Las Vegas, Nevada.

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# Conservation Agreement Signed for Spring Pygmy Sunfish

by John Pulliam III,  
Jackson Endangered Species Office

More than 5 years of effort have finally culminated in the protection of the spring pygmy sunfish (*Elassoma* sp.) by the signing of a Conservation Agreement (CA) among the J. F. McDonald Estate, Lowe Farms, the Alabama Department of Conservation and Natural Resources, and the Fish and Wildlife Service (FWS). The CA basically provides for (1) maintaining of the integrity of the Beaverdam-Moss Spring and Swamp Complex; (2) implementing soil conservation measures to reduce the likelihood of excessive silt, pesticides, or other pollutants from entering the spring; (3) conferring with FWS before initiating any habitat modification; (4) implementing management actions which may become necessary; and (5) monitoring the population status and confirming the agreement annually.

The spring pygmy sunfish was discovered by Tennessee Valley Authority biologists in 1937 in Cave Spring, Lauderdale County, Alabama. This spring later was inundated by Pickwick Lake. In 1941, the sunfish was collected in Pryor Spring in Limestone County, but this population also was subsequently extirpated. Dr. David Etnier discovered still another population in the Beaverdam-

Moss Spring and Swamp Complex in 1973.

The spring pygmy sunfish was proposed for listing as an Endangered species with Critical Habitat on November 29, 1977, and a public hearing was held in Birmingham, Alabama, on March 15, 1978. A reproposal of Critical Habitat was published on July 27, 1979, to comply with new requirements established by the 1978 Amendments to the Endangered Species Act, and a public hearing on this reproposal was held on August 29, 1979. The proposal to list the spring pygmy sunfish was withdrawn on November 29, 1979, because the rule was not completed within 2 years of the proposal (as required by the 1978 Amendments).

The threats to the spring pygmy sunfish outlined in the original proposal were pollution and siltation. A meeting was subsequently held with the FWS, Agricultural Stabilization Conservation Service, Soil Conservation Service, County Extension Agent, Alabama Game and Fish Division, and the two landowners to address the threats to the spring pygmy sunfish. Since the spring pygmy sunfish has survived under existing land use practices, it seemed logical that maintaining the integrity of the Beaverdam-Moss Spring and Swamp

Complex and implementing soil conservation measures to reduce the likelihood of excessive siltation or pesticide runoff would protect the species. Mr. Albert McDonald, the primary landowner, had already instituted land treatment measures, approved by the Limestone County Soil and Water Conservation District, that would reduce erosion to less than the amount of soil replaced naturally.

During development of the draft CA and review by the cosignatories, a "Conservation Agreement for Candidate Species-Final Policy and Guidelines" was signed by the FWS Associate Director - Federal Assistance on January 3, 1983. The final signature on the Spring Pygmy Sunfish Conservation Agreement, which complies with the above policy, was obtained on April 13, 1983.

On April 19, we conducted the first annual survey of the spring pygmy sunfish population in the Beaverdam-Moss Spring and Swamp Complex. We found a healthy population in good reproductive condition. We have already contacted Mr. Luke Pryor, owner of Pryor Spring, regarding a possible reintroduction of spring pygmy sunfish. He has been very cooperative, and is interested in helping with the project. In addition, we are in the process of identifying at least one other location for a possible reintroduction. We believe that the maintenance of at least three separate populations of the spring pygmy sunfish would provide sufficient protection to ensure survival of the species.

## Louisiana Prairie Vole Thought to be Extinct

According to a recent status survey by the Louisiana Cooperative Wildlife Research Unit, (LCWRU) the Louisiana prairie vole (*Microtus ochrogaster ludovicianus*) apparently is extinct.

The Louisiana prairie vole was discovered in 1899 by Vernon Bailey close to Iowa, Louisiana, in Calcasieu Parish. In 1905, he recorded a specimen taken by Ned Hollister at Sour Lake in Hardin County, Texas, but the species has not been seen since then. The late Dr. George H. Lowery and his students at Louisiana State University set thousands of traps beginning in 1934, and Dr. James D. Lane at McNeese State University estimates 10,000 trap-nights in the area where the vole had been captured—all to no avail. In July 1982, the Service's Jackson Endangered Species Field Office requested the LCWRU to conduct a status survey on the vole. The unit's report, dated February 10, 1983, stated that no Louisiana prairie voles were captured after 11,097 trap-nights.

The extirpation of the Louisiana prairie vole evidently is due to changes in habitat from prairie to rice fields, pine forests, or small shrubs and woody vegetation. Its demise may also have been hastened by competition from hispid cotton rats (*Sigmodon hispidus*), which were not collected by Bailey. Based on the current status information, the Service will take no further action at this time on the Louisiana prairie vole, which had been considered a candidate for listing.

## Interagency

*Continued from page 1*

the process has been amended by law in 1978, 1979, and 1982. The most recent revisions are in accordance with the Endangered Species Act Amendments of 1982, which offer more flexibility in the consultation process, including more participation by permit or license applicants. The 1978 and 1979 changes already have been implemented informally for the most part. These proposed rules would incorporate the changes required by the 1982 Amendments and fully explain all the provisions of Section 7. One new provision in the 1982 Amendments allows prospective license

or permit applicants to request consultation, through the consulting agency, earlier in the course of their planning so that potential conflicts can more readily be avoided. Applicants must be notified if a 60-day extension in the consultation process is needed, and extensions longer than 60 days now require the applicants' consent. Another change added a provision that allows limited incidental take, but only under specific conditions. Such taking would be allowed only in accordance with "reasonable and prudent" measures designed to minimize the take. These and other changes are detailed in the June 29, 1983, *Federal Register* notice. The time-frames for the Section 7 exemption process also were shortened significantly by the 1982 Amendments, and revised exemption regulations will be proposed shortly.

## Public Comment Requested

Comments on the proposed rules are requested from all interested individuals, agencies, and organizations, and should be addressed to the Director, U.S. Fish and Wildlife Service, Office of Endangered Species, Washington, D.C. 20240. The comment deadline has been extended to August 29, 1983.

# Interagency Grizzly Bear Committee Formed

An agreement has been reached between the U.S. Departments of Interior and Agriculture aimed at improving the chances for survival of the Threatened grizzly bear (*Ursus arctos horribilis*). The agencies agreed that the most pressing need for achieving the communication and coordination required for recovery was to restructure the existing Grizzly Bear Steering Committee, which focused only on research in the Yellowstone Ecosystem. The concept of an Interagency Grizzly Bear Committee (IGBC) was developed between both Departments and resulted in a Memorandum of Understanding setting forth the basic premise of the IGBC and its subcommittees. The IGBC will coordinate research, management, and funding for grizzlies in the lower 48 States, and will make recommendations to Federal agencies and State governors on efforts to protect these animals. The basis for action of the IGBC will be the Grizzly Bear Recovery Plan. The IGBC will be headed by top level managers who can ensure that necessary actions

are implemented. Members include Regional Directors of the U.S. Fish and Wildlife Service (FWS) and National Park Service (NPS), three Regional Foresters of the USDA's Forest Service, and one representative each from Idaho, Montana, and Wyoming.

The first meeting of the Interagency Grizzly Bear Committee was held in Denver on June 13, 1983. In addition to regular committee members, other officials from the FWS and NPS attended, along with representatives from the State of Washington and the Audubon Society. The meeting emphasized the responsibilities and organizational structure of the new committee and its four subcommittees, which include: the Yellowstone Ecosystem Management Subcommittee, the Northern Continental Divide Ecosystem Management Subcommittee, the Northwestern Ecosystems Management Subcommittee, and the Research Subcommittee.

Responsibilities of the IGBC are to implement the Grizzly Bear Recovery Plan, guide and plan research, make

recommendations to Federal agencies and States, review and approve actions approved by the subcommittees, and provide for implementation of approved actions through necessary funding. The three management subcommittees will be responsible for proposing management actions necessary for grizzly recovery, implementing approved management actions, establishing teams to implement recovery actions (such as law enforcement teams), and identifying and submitting research needs to the Interagency Grizzly Bear Committee. Interim chairmen have been appointed for the three subcommittees. Chris Servheen, Grizzly Bear Recovery Coordinator, was appointed Chairman of the Research Subcommittee, which will identify and propose necessary research to the IGBC for approval, coordinate and direct approved research, interpret research findings, and review and develop research projects. The next meeting of the Interagency Grizzly Bear Committee is scheduled for August 17, 1983, in Denver.

## Caribou

*Continued from page 5*

Federal land-use planning, and strengthen law enforcement authority. Critical Habitat was not included in the proposal because publishing maps could make the herd more vulnerable to poachers; however, the habitat of the herd will still receive protection under Section 7 of the Act.

Comments on the proposed listing are invited from all interested agencies, organizations, and individuals, and should be received by August 22, 1983, by the Regional Director, Region 1 (see page 2 of the BULLETIN for address). Public hearing requests should be received by August 8, 1983.

## Regional Briefs

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ada. The main purpose of the meeting was to work on revising the existing recovery plans for the Colorado River squawfish (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and bonytail chub (*Gila elegans*). Other major items discussed included the draft Conservation Plan Proposal for the Upper Basin, coordination of squawfish tagging efforts, and development of a management plan for the Lower Basin.

The Black-footed Ferret Recovery Team met on June 20 in Rapid City, South Dakota. All team members, including the five newly appointed individuals, were present. The main purpose of the meeting was to work on a revision

of the existing recovery plan. Assignments were made to the individual team members, and a target date for the initial draft was set at August 1. The team will also work to set up a 1-day information workshop, possibly next year, for the exchange of current information related to the black-footed ferret (*Mustela nigripes*).

**Region 7**—Three current Aleutian Canada goose (*Branta canadensis leucopareia*) recovery activities in the Aleutian Islands are yielding encouraging results. Control of Arctic foxes (*Alopex lagopus*) on Amukta Island (a future Aleutian Canada goose release site) is proceeding; about 50 foxes were removed as of June 30, and control measures will continue through summer. A spring survey of Agattu Island and Nizki-Alaid Islands for returning captive-raised birds and transplanted birds from Buldir Island resulted in 25 geese observed, 16 on Agattu and 9 on Nizki-Alaid. Some appeared to be paired, but no nests were located. An additional survey will be conducted on Agattu during the trap-transplant activities in late July and August to determine if any nesting occurred this year.

The most exciting data came from Chagulak Island. Last year, an FWS marine bird survey crew discovered approximately 60 "Aleutian-like" geese on the island but, due to inclement weather, observations were limited. This month, with the aid of good weather, a team of biologists spent several days on the island and recorded approximately 75 geese. Metal bands were observed on

five of the birds, and a red leg-band was seen on one. These data indicate that the population indeed consists of Aleutian Canada geese and that at least some of the geese winter with the Buldir flock in the California wintering area.

## NEW PUBLICATIONS

*Walker's Mammals of the World*, 4th edition, by Ronald M. Nowak and John L. Paradiso, 1983, is now available. This two-volume work covers more than 1,000 genera of mammals and over 4,000 different species. Copies can be purchased for \$65.00 from the Johns Hopkins University Press, Baltimore, Maryland 21218.

*Plant Extinction: A Global Crisis* by Harold Koopowitz and Hilary Kaye, 1983, is available for \$16.95 (\$21.95 Canada) from Stackpole Books, Cameron and Keller Streets, Harrisburg, Pennsylvania 17105. *Vanishing Fishes of North America* by R. Dana Ono, James D. Williams, and Anne Wagner, 1983, is available from the same address for \$27.50 (\$34.95 Canada). Both books were published by Stone Wall Press, Inc., 1241 30th Street, N.W., Washington, D.C. 20007.

*Genetics and Conservation: A Reference for Managing Wild Animals and Plant Populations* by Christine M. Schonewald-Cox, Steven M. Chambers,

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## New Publications

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Bruce MacBryde, and Larry Thomas, 1983, is now available for \$24.95. Copies can be ordered from Addison-Wesley Publishing Company, Inc., Advanced Book Program/World Science Division, Reading, Pennsylvania 01867.

*New Jersey's Endangered and Threatened Plants and Animals*, the proceedings of the Second Symposium on Endangered and Threatened Plants and Animals of New Jersey held in 1981, is now available for \$8.00. The work was edited by William J. Cromartie and can be ordered from Office of Conferences and Seminars, Stockton State College, Pomona, New Jersey 08240.

The Second part of the *Atlas of the Rare Vascular Plants of Ontario*, edited by G.W. Argus and D.J. White, was published in July 1983 by the National Museum of Natural Sciences. It is available free-of-charge from: The Rare and Endangered Plants Project, Botany Division, National Museum of Natural Sciences, Ottawa, Ontario K1A 0M8. The recipients of Part 1 of the Atlas will automatically be sent this and subsequent parts.

Reprints of an article, "Record Dispersal by a Wolf From Minnesota," by Steven H. Fritts, published in the *Journal of Mammalogy*, 64(1):166-167, 1983, are available. Single copies may be requested by writing the U.S. Fish and Wildlife Service, North Central Forest Experiment Station, 19992 Falwell Avenue, St. Paul, Minnesota 55108.

The *Recovery Plan for the Hawaiian Monk Seal*, *Monachus schauinslandi*, by William G. Gilmartin, 1983, is now available. Copies of the plan may be obtained by writing to either: Regional Director, Southwest Region, National Marine Fisheries Service, 300 South Ferry Street, Terminal Island, California 90731

## BOX SCORE OF LISTINGS/RECOVERY PLANS

Category	ENDANGERED			THREATENED			SPECIES* TOTAL	SPECIES HAVING PLANS
	U.S. Only	U.S. & Foreign	Foreign Only	U.S. Only	U.S. & Foreign	Foreign Only		
Mammals	15	18	223	3	0	22	281	18
Birds	52	14	144	3	0	0	213	33
Reptiles	8	6	60	8	4	12	98	6
Amphibians	5	0	8	3	0	0	16	2
Fishes	29	4	11	12	0	0	56	22
Snails	3	0	1	5	0	0	9	5
Clams	23	0	2	0	0	0	25	0
Crustaceans	2	0	0	1	0	0	3	1
Insects	7	0	0	4	2	0	13	3
Plants	55	2	0	9	1	2	69	8
<b>TOTAL</b>	<b>199</b>	<b>44</b>	<b>449</b>	<b>48</b>	<b>7</b>	<b>36</b>	<b>783</b>	<b>98**</b>

\*Separate populations of a species, listed both as Endangered and Threatened, are tallied twice. Species which are thus accounted for are the gray wolf, bald eagle, American alligator, green sea turtle, and Olive ridley sea turtle.

\*\*More than one species may be covered by some plans.

Number of species currently proposed for listing: 20 animals  
10 plants

Number of Critical Habitats determined: 55  
Number of Recovery Teams appointed: 69  
Number of Recovery Plans approved: 92  
Number of Cooperative Agreements signed with States: 38 fish & wildlife  
11 plants

June 30, 1983

or Administrator, Western Pacific Program Office, National Marine Fisheries Service, P.O. Box 3830, Honolulu, Hawaii 96812.

The *Liaison Conservation Directory for Endangered and Threatened Species* has been updated (May 1983) and published. This directory lists Federal, State-Territorial, private organization, and independent contacts who are cooperating in the U.S. Endangered Species Program. All persons listed in the directory will receive a copy. Others may purchase the directory from the Government Printing Office, Washington, D.C. 20402 (stock number 024-010-00642-1).

## Coneflower

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general volunteer effort to help conserve endangered species. Propagation and transplantation efforts such as these will help make plants available for reintroductions and public education programs as well as satisfying horticultural demands.

Copies of the Tennessee Coneflower Recovery Plan are available from the Fish and Wildlife Reference Service. For more information on this plan contact the Atlanta Regional Director (see page 2 for address).

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# ENDANGERED SPECIES

## Technical Bulletin

Department of Interior, U.S. Fish and Wildlife Service  
Endangered Species Program, Washington, D.C. 20240



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