

ENDANGERED SPECIES

Technical Bulletin

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

Four Plants Proposed for Listing

Another four plants have been proposed by the Service for addition to the list of Endangered and Threatened species. If the proposals are made final, the total number of plants given protection under the Endangered Species Act will increase to 80.

San Mateo Thornmint

Proposed for listing as an Endangered species (F.R. 6/8/84) is the San Mateo thornmint (*Acanthomintha obovata* ssp. *duttonii*), a member of the mint family. It is known to exist only as one small population of 2,000-3,000 individual plants in Edgewood County Park near Redwood City, California. Historically, this subspecies also grew on grassy serpentine hillsides in locations scattered throughout San Mateo County, California. Populations at these other sites have been destroyed, however, presumably by urban development, road construction, and other land development activities.

The remaining population of this subspecies is being affected by unauthorized and uncontrolled recreational activities in Edgewood Park, such as habitat disturbance by ORVs and trampling by pedestrian and horseback traffic. Other uses currently being considered for the park include opening day camps, establishing picnic areas, and developing a golf course, all of which have the potential to affect the surviving thornmint population by reducing the extent of undeveloped land and thus increasing the intensity of recreational ORV use on what will remain.

The thornmint is listed as an endangered species by the State of California; however, State law principally addresses restrictions on trade and salvage of plants when there is a change in land use. Federal listing would provide the additional protection necessary to ensure survival of this plant in its natural habitat.

A designation of Critical Habitat is not being proposed for the San Mateo thornmint. This decision is based mostly on the fact that a portion of this limited population was removed during the

spring of 1983. It is not known who removed individuals of the thornmint or for what purpose they were removed, but because underlying soil was also taken, it is suspected that an attempt was made to transplant individuals of the subspecies. Since Critical Habitat designation requires the publication of maps specifically indicating its location, the Service feels that such designation is not prudent at this time because it could lead to further removal of plants, ultimately contributing to the taxon's decline.

Comments on this proposal should be received by August 17, 1984, at the office of the Field Supervisor, U.S. Fish and Wildlife Service, 2800 Cottage Way, Room E1823, Sacramento, California 95825.

Welsh's Milkweed

A member of the family Asclepiadaceae, the Welsh's milkweed (*Asclepias welshii*), is known to occur only in the Coral Pink Sand Dunes area and in an area known as the Sand Hills to the northeast, both in Kane County, southern Utah. This plant is a herbaceous perennial that grows up to 10 cm tall and has large, oval leaves and cream-colored flowers with a rose-tinged middle. The species grows on open, sparsely vegetated sand dunes and on

continued on page 4



The San Mateo thornmint is known to exist only as one small population in Edgewood County Park, California.

Proposed Threatened Status for Two Desert Fishes

During June 1984, the reduced status of another two desert fishes was recognized by the Service as proposals to list them as Threatened species were published in the *Federal Register*. Both the Fish Creek Springs tui chub (*Gila bicolor euchila*) and the Sonora chub (*Gila ditaenia*) are jeopardized by habitat degradation and the introduction of exotic fishes. The proposals bring to 18 the number of desert fishes now being considered for listing as Endangered or Threatened under the Endangered Species Act, in addition to the 30 desert fishes already listed.

Fish Creek Springs Tui Chub

G. b. euchila is known only from Fish Creek Springs, located in the Little Smoky Valley of Eureka County, Nevada, and is the only fish native to the spring system. This relict subspecies of tui chub once occurred in large numbers within the four formerly interconnected springs and their outflows, which comprise Fish Creek. Unfortunately, however, *G. b. euchila* has declined substantially in range and numbers due primarily to two factors. Introduced rainbow trout (*Salmo gairdneri*) and brook trout (*Salvelinus fontinalis*) prey extensively on the native tui chubs and restricted them to spring pools in areas of dense aquatic vegetation. The habitat also has been degraded by cattle overgrazing the vegetation that surrounds the spring system. This overgrazing contributes to siltation from the erosion of adjacent lands, and generally degrades water quality. Overgrazing also reduces plants that provide cover and are a source of insects, upon which the tui chub feeds. In addition, one springhead has been drastically altered to provide a livestock watering tank, and is no longer connected to the spring system.

By July 1983, biologists surveying the Fish Creek Springs system found tui

continued on page 7



Regional Briefs

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

Region 1—The Sacramento Endangered Species Staff participated in a meeting of the Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*) Recovery Team and surveyed portions of San Antonio Creek

that may be affected by proposed oil exploration and road repair projects. Sticklebacks were discovered in several isolated pools in and above Barka Slough that may soon dry up because of the extremely low precipitation in the basin this year. In response to this discovery, 850 sticklebacks were translocated from these pools into Honda

Creek on Vandenberg Air Force Base. That translocation had previously been recommended by the recovery team, approved by Vandenberg officials, and incorporated into the stickleback recovery plan, but was deferred until now because of the unavailability of surplus donor stock.

The Sacramento staff assisted The Nature Conservancy (TNC), Oregon Department of Fish and Wildlife, and the Bureau of Land Management (BLM) in developing a water management plan for Borax Lake in Harney County, Oregon. TNC has acquired a lease to Borax Lake in order to protect the Endangered Borax Lake chub (*Gila boraxobius*). The plan emphasizes the security of Borax Lake for the chub and the need for restoration of marshes around the lake. To these ends, an artificial channel from Borax Lake to a nearby reservoir will be partially filled and some water will be diverted into now-dry marsh habitat.

The Sacramento staff met with BLM and State officials in Ukiah, California, to evaluate study proposals and select a contractor for the *Arabis mcdonaldiana* (McDonald's rock-cress) study at Red Mountain. The study is intended to provide information on the plant's ecology and life history, and assist in the determination of essential habitat for this species. It will provide information critical to developing an appropriate management plan for the *Arabis* populations on public land on Red Mountain, and assist with the species' recovery.

Egg clutches were collected from 28 California peregrine falcon (*Falco peregrinus*) nests during April and May as part of the continuing effort to improve wild reproduction. Of the 103 collected, 54 eggs were viable, 26 were dead, and 28 had already broken in the nests prior to collection. Artificial eggs were placed in the nests until nestlings can be fostered. All eggs were transferred to the Santa Cruz Predatory Bird Research Group for artificial incubation. Nestlings hatched either from wild eggs or from captivity-produced eggs will be fostered to the wild pairs. DDE contamination continued to be a major factor in lowering reproductive success of wild peregrines in California.

During a successful field trip to work on *Mirabilis macfarlanei* (McFarlane's four-o'clock), two new colonies of

continued on page 6

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Gulf Coast Beach Mice Proposed for Listing as Endangered

Three subspecies of beach mice endemic to the Gulf Coast of southern Alabama and northwestern Florida have been proposed by the Service for listing as Endangered (F.R. 6/7/84). The Alabama beach mouse (*Peromyscus polionotus ammobates*), Perdido Key beach mouse (*P. p. trissyllepsis*), and Choctawhatchee beach mouse (*P. p. allophrys*) are in danger of extinction due to destruction of their sand dune habitat by residential and commercial development, recreational activity, and tropical storms. The proposal, if approved, will give these animals protection under the Endangered Species Act of 1973.

Beach mice have small bodies, haired tails, relatively large ears, protuberant eyes, and coloration that blends well with the sandy soils and dune vegetation of their habitat. The Alabama beach mouse, also called the Alabama Gulf Coast beach mouse or white-fronted mouse, has an average overall length of 5 inches, pale gray upper parts, and white underparts and tail. The Perdido Key beach mouse, also referred to as the Perdido Bay or Florida beach mouse, measures an average of 5 inches from head to tail. Its upper parts are grayish fawn to wood brown with a pale yellow hue, underparts are white, and its tail ranges from white to pale grayish brown. In the Choctawhatchee beach mouse, overall length averages 5.2 inches and the upper parts are orange-brown to yellow-brown. Like the Alabama and Perdido Key beach mice, the underparts of this mouse are also white.

Human and natural alterations of coastal ecosystems have resulted in severe declines of beach mice. Most of the suitable habitat has been lost because of residential and commercial development, recreational activity, beach erosion, and vegetational succession. Competition from introduced house mice (*Mus musculus*) and predation by domestic cats (*Felis catus*) also seem to be causing problems. In addition, tropical storms are a constant threat to the reduced populations of beach mice. Hurricanes Eloise (1975) and Frederick (1979) were especially bad, destroying large areas of habitat for all three subspecies.

Several recent status surveys and habitat analyses have indicated that the situation continues to worsen. All three beach mice historically ranged along approximately 103 miles of coastal sand dunes in Baldwin County, Alabama, and Escambia, Okaloosa, Walton, and Bay Counties, Florida. At present, they are



Photo by Dr. Julian L. Dusi

Destruction of their sand dune habitat has resulted in severe declines of beach mice.

found along not more than 26.6 miles of Gulf Coast dunes, or approximately one-fourth of the original range.

The major threat to beach mouse habitat continues to be human destruction of the coastal sand dune ecosystem for commercial and residential development. This development often isolates small areas of habitat, thereby fragmenting populations and upsetting gene flow. High density multiple housing can act as a barrier to migration between populations. If any such population segment is extirpated, it cannot be replaced by natural immigration. In addition to residential and commercial development, recreational use of the sand dunes by pedestrians and vehicles can destroy vegetation essential for dune development and maintenance. Such loss of vegetation results in extensive wind and water erosion, reducing the effectiveness of coastal dunes as a protective barrier and ultimately destroying beach mouse habitat.

Current controls affecting development in Gulf Coast sand dunes do not make any special provisions for beach mouse habitat protection. They do not prevent development in such habitat, or deal with the specific needs of the mice in relation to development, but simply establish general requirements for the siting and construction of buildings, utilities, and access corridors.

The Service has proposed a designation of Critical Habitat for the Alabama, Perdido Key, and Choctawhatchee beach mice as part of the listing proposal. This area encompasses 38.3 miles of coastline in Baldwin County, Alabama, and Escambia, Walton, and Bay Counties, Florida. If the listing and Critical Habitat proposal is approved, Federal agencies will be required to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the continued survival of the beach mice or adversely modify their Critical Habitat. Among the Federal actions that could be affected by the proposal are the Federal flood insurance program, Federal construction loans, and certain U.S. Army Corps of Engineers projects. It should be emphasized that a Critical Habitat designation would not necessarily rule

out such actions. Considering the needs of listed species early in the planning process usually means that potential problems can be addressed by modifying, not halting, an action.

In addition to the habitat conservation measures mentioned above, listing the three beach mice would bring other benefits. It would draw attention to their precarious status, mandate development of a recovery plan, and possibly provide for Federal aid to cooperative State conservation programs. In addition, listing them as Endangered would make it illegal to take, possess or engage in interstate or international trafficking in these mammals, except under permit for scientific or conservation purposes. Listing the three beach mice as Endangered also might spur completion of the Service's Bon Secour National Wildlife Refuge in Alabama, which contains some beach mouse habitat. So far, about 2.6 miles of beach mouse habitat on the refuge have been acquired within the 3.7 miles authorized by Congress.

Comments on this proposal are due by August 6, 1984, to the Endangered Species Field Supervisor, U.S. Fish and Wildlife Service, 2747 Art Museum Drive, Jacksonville, Florida 32207.

Black Market in Protected Birds Exposed

Fish and Wildlife Service special agents, along with State conservation officers, arrested more than 30 individuals in 14 States in a crackdown against illegal commercialization in birds of prey. This action culminates a 3-year undercover investigation that exposed a thriving black market in federally protected birds. Agents were able to infiltrate the networks of individuals involved in illegal raptor taking and trading, and to obtain evidence of violations by subjects throughout the United States. The operation was carried out by 150 Service special agents and an equal number of State wildlife officers who served search and arrest warrants in Arizona, California, Colorado, Idaho, Illinois, Louisiana, Minnesota, Missouri, Montana, Nevada, New Mexico, New York, Texas, and Utah. Those arrested were charged with violating various Federal wildlife statutes as well as smuggling, conspiracy, and mail fraud. Agents also seized a large number of live raptors such as gyrfalcons (*Falco rusticolus*) and Endangered peregrine falcons. In total, more than 80 felony charges are pending.

Four Plants Proposed for Listing

continued from page 1

the lee slopes of the dunes in the shade of trees.

Approximately 8,500 individuals are currently known to exist, but these remaining plants are in danger of extinction due to off-road vehicle (ORV) activity and livestock grazing. In some areas, livestock affects more than 50 percent of the plants. This high incidence of grazing is much more than many species can tolerate. Another factor affecting the continued existence of *Asclepias welshii* is the fragile nature of the habitat. The dunes are easily degraded by surface disturbances and are subject to effects from activities on adjoining lands. Given the severity of the threats to this species, along with its limited distribution and small numbers, the Service has proposed to list the Welsh's milkweed as Endangered (F.R. 6/6/84). Currently, there are no Federal, State, or local laws or regulations that provide for the protection of this species.

A designation of Critical Habitat is also part of this proposal. Since most of the plants are known to occur on Federal lands and are not subject to commercial or private collecting pressures, the Service feels that *Asclepias welshii* would benefit from such a determination. The area proposed includes the entire habitat currently occupied by the species in Kane County, Utah, in both the Coral Pink Sand Dunes and in a small area in the Sand Hills.

Comments on the proposal to list this plant are invited from all interested agencies, organizations, and individuals, and are due to the Regional Director, Region 6 (address on page 2 of the BULLETIN) by August 6, 1984.

Beautiful Goetzea

The beautiful goetzea (*Goetzea elegans*) is found only in the semi-evergreen seasonal forests that occur on limestone in northern Puerto Rico. Only 59 plants are known to exist, some on land owned by the Government of the Commonwealth of Puerto Rico and others on privately owned land. The continued existence of this species is being threatened mostly by road construction, periodic trimming of roadside vegetation, and clearing of forests for cattle pastures.

Goetzea elegans was discovered in 1827 and is named for the German theologian J. E. Goetze. The species is an evergreen shrub or small tree that grows up to 30-40 feet tall with stems up to 8-10 inches thick. The leaves of this species are simple, alternate, and 2-4 inches long and 1-2 inches wide. Flowers and fruits have been observed on the beauti-

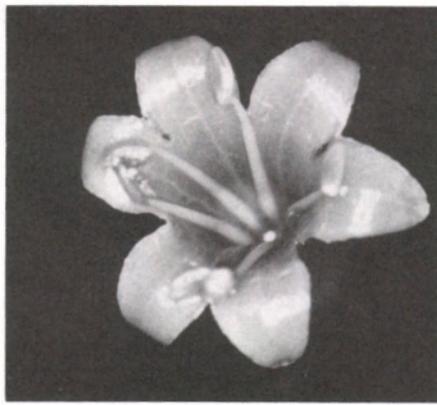


Photo by J. Vivaldi

This flower of the *Goetzea elegans* represents the first known photograph of this species in bloom. Until recently, blossoms had not been observed since 1936.

ful goetzea in the months of May to August. Usually a single orange flower is borne on a curved stalk in the leaf axil and there may be several terminal flowers which are symmetrical and funnel-shaped. The fruits are one-seeded, orange, and about 3/4 of an inch in diameter.

In August 1979, the Fish and Wildlife Service contracted Dr. José L. Vivaldi, a resident botanist of Puerto Rico, to conduct a status survey of some plants thought to be candidates for listing as endangered or threatened in Puerto Rico and the Virgin Islands. Reports and documentation resulting from this survey recommended that *Goetzea elegans* be proposed for listing as an Endangered species. The Service has now issued a proposed rule to this effect (F.R. 6/18/84), which is the first for a Puerto Rican plant.

The beautiful goetzea is currently known from only three sites, all in the Quedradillas area of northern Puerto Rico. Two of these sites are located in the Guajataca Gorge, and the third is a few miles to the east. Of the two sites in the gorge, one is privately owned. The other is a road site owned and managed by the Commonwealth Department of Transportation and Public Works, and consists of one or two adult plants and three or more root suckers. This site is periodically cleared of vegetation during routine road maintenance, which results in serious habitat disturbance. This practice has resulted in the plant's stunted growth and lack of flowers, fruits, and siblings. The second site in Guajataca Gorge is a quarter of a mile from the first, on a hillside near the road, and contains about six plants. (In 1955, this site had about 30 adult plants.) The site is threatened by destruction and modification due to road construction, stone quarrying, and other development.

The third site is located in a ravine several miles east of the gorge, and contains the largest population of the beautiful goetzea. Over 30 plants have been

located, measured, and tagged. Most of the site has been cleared for pasture and the original vegetation destroyed. The beautiful goetzea is found in the remaining undisturbed area. Population pressure and the need for pasturelands could force further clearing in the area. This site contains the largest known specimens, and the only that are known to have produced flowers and fruit since 1936.

The Service has determined that designation of Critical Habitat for *Goetzea elegans* is not prudent at this time. Publication of Critical Habitat localities along the roads where the species occurs would increase the risk of taking or vandalism.

The only known Federal activities that could be affected by any final rule to list the beautiful goetzea as an Endangered species are those of the Federal Highway Administration. In the event that highways are widened or resurfaced in this area, a strong commitment will be needed to protect the species. Without the protection provided by the Endangered Species Act, *Goetzea elegans* could be brought to extinction or its habitat substantially modified.

Comments on this proposal are due to the Ecological Services Field Supervisor, U.S. Fish and Wildlife Service, P.O. Box 3005 - Marina Station, Mayaguez, Puerto Rico 00709-3005, by August 17, 1984.

Mancos Milk-vetch

A member of the pea family, *Astragalus humillimus* (the Mancos milk-vetch) is a perennial species with small compound leaves composed of many oval, light green leaflets and lavender flowers that have a sweet, pungent fragrance. It grows in low, tufted mats 31-45 cm in diameter. The species currently is known in small numbers only from a ridge west of Waterflow in San Juan County, New Mexico, where it is threatened by habitat disturbance.

All three populations, which total about 7,000 plants, occur on Navajo Indian Reservation land. The largest population, consisting of approximately 5,000 plants, is within an active oil field, and the number of roads, oil wells, and pipelines is increasing. (Although the land and surface rights are owned by the Navajo Tribe, the leaseable mineral rights are privately owned.) A second population of about 1,000 individuals was bisected by two electrical transmission lines more than 20 years ago, and the species has not repopulated the disturbed land directly underneath the lines. An upgrading of the transmission line is planned for 1985, but the Western Area Power Administration (WAPA) is considering the species in its planning. Damage to nearby plants from maintenance or recreational off-road vehicles using the right-of-way could intensify in

the future. The third and smallest population is found in an area that is expected to be explored for oil within the next year.

Because of these threats, the species' very localized distribution, and its poor tolerance of habitat disturbance, *Astragalus humillimus* has been proposed for listing as an Endangered species (F.R. 6/28/84). A formal designation of Critical Habitat was not included in the proposal because publishing detailed maps and population locations would make the species more vulnerable to vandalism; nonetheless, the plant and its habitat would receive protection under Section 7 of the Endangered Species Act. The Navajo Tribe, WAPA, and Bureau of Land Management, which are responsible for administering the habitat, are aware of the population sites.

Comments on the listing proposal are welcome, and are due the Regional Director, Region 2 (address on BULLETIN page 2) by August 13, 1984.

Effects of the Listings if Approved

If each proposal is made final, each plant will receive protection under the Endangered Species Act of 1973, as amended. Conservation measures provided to species listed as Endangered under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Under Section 7 of the Act, Federal agencies would be required to consult with the Fish and Wildlife Service to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the survival of the listed species or adversely modify their habitats. Until a final decision on the listing proposal is reached, Federal agencies are required only to "confer" with the Service, a non-binding procedure.

Interstate and international trafficking in these plants without a permit will be prohibited, with certain exceptions, if they are listed. In addition, Section 9 of the Act makes it unlawful to remove and reduce to possession Endangered plants from lands under Federal jurisdiction.

Reclassification Proposed for Florida Alligator

The Fish and Wildlife Service has proposed to reclassify the American alligator (*Alligator mississippiensis*) in Florida, where the species is currently classified as Threatened, to the classification of "Threatened due to Similarity of Appearance" (F.R. 6/20/84). This proposed change is based on evidence that the Florida alligator is not biologically threatened, a legal status given to spe-

cies that are likely to become endangered within the foreseeable future.

The American alligator occurs in varying densities in wetland habitats throughout the Southeastern U.S., including all or parts of the States of Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, Oklahoma, North Carolina, South Carolina, and Texas. Crocodylians such as the American alligator are the only extant representatives of the order Archosauria, and this species represents one of the only two extant species of the genus *Alligator*. Having evolved some 180-200 million years ago, the crocodylians show many advanced characteristics such as a four-chambered heart, a rudimentary diaphragm, and elaborate maternal behavior.

The alligator was first classified as Endangered in 1967 throughout its range due to a concern over poorly regulated harvests. Subsequently, as a result of Federal and State protection, the alligator recovered rapidly in many parts of its range. The Service has reclassified it as Threatened in Florida and in certain coastal areas of South Carolina and Georgia, and as Threatened due to Similarity of Appearance in Louisiana and Texas.

In June 1982, the Service began additional status assessments of the alligator in Florida. Data resulting from these assessments indicate that the American alligator in Florida is not likely to become endangered within the foreseeable future, and thus its current designation as a Threatened species should be changed. However, because of the alligator's similarity of appearance to other endangered crocodylians and because hides or other parts of the animal may be subject to trade, the Service believes it is necessary to maintain some control over commercial activities involving alligators in the State of Florida. The classification of Threatened due to Similarity of Appearance, which is authorized under Section 4 of the Endangered Species Act, will aid effective law enforcement and could help ensure the conservation of less secure alligator populations, as well as other crocodylians, that are still Threatened or Endangered. (See map in BULLETIN Vol. VIII No. 11.)

Florida has more alligator habitat than any other State within the species' range. One habitat type, the palustrine emergent (which includes the Everglades and other freshwater marshes), has undergone a loss of approximately 25 percent in the last 30 years due to drainage and conversion for agricultural use. However, the total amount of fresh marsh habitat still exceeds 3 million acres and is likely to remain an abundant habitat type in the future. Florida's lake habitats, although smaller in total size than the fresh marshes, are highly productive for alligators, often having densities well in excess of those in marsh areas. Overall, habitat loss does not currently pose a threat to the status of the American alligator in Florida.

The commercial demand for alligator products was responsible for the overharvests that caused population declines during the 1950s and 1960s. A 1969 amendment to the Lacey Act reversed this problem by prohibiting interstate commerce in illegally taken reptiles and their parts and products. This act reinforced State laws protecting the alligator by providing Federal authority for dealing effectively with illegal activities in the market system. In addition, the Endangered Species Act of 1973 added heavy penalties which further enhanced the control of illegal taking, and State and Federal authorities have been generally successful in controlling such activity.

The State of Florida has adopted an alligator management plan and is conducting an extensive research program designed to ensure against overharvest of the species. Since uncontrolled harvesting was the reason for past overexploitation in some areas, and sustainable yields from harvested populations are biologically limited, Florida is committed to extremely restricted harvests. The only exception to this would be in very localized areas where potentially serious conflicts exist between humans and alligators. In these cases, intentional overharvests may occasionally be authorized to remove any threat to human safety and to promote public tolerance of this sometimes hazardous

continued on page 8



Productive alligator populations are well distributed throughout Florida, with over 6.7 million acres of wetland habitat currently occupied by the species.

Photo by C. Kenneth Dodd, Jr.

Regional Briefs

continued from page 2

plants were discovered through helicopter surveys. This brings the total to three sites in Oregon and four in Idaho.

As of May 30, over 11,300 cui-ui (*Chasmistes cujus*) had been captured in the Marble Bluff Fish Facility and released upstream. This was the second largest run to pass through the facility; the largest run occurred in 1982 when 14,000 fish were captured. This year's spawning run began on April 9 and gradually increased to a peak of 1,444 fish on May 4, after which the run slowly decreased to only a few stragglers by May 25.

The fish continued to ignore the Pyramid Lake Fishway in favor of the river entrance as a gateway to their spawning grounds. A recent increase in Pyramid Lake's elevation allowed cui-ui free and easy access over the former Truckee River delta. However, only a fraction of those fish reaching the stilling basin below Marble Bluff Dam could be captured for transport over the dam. For this reason, we believe that several thousand cui-ui spawned in the marginal habitat downstream of the dam.

Region 2—Regional office personnel assisted the New Mexico Department of Game and Fish and the U.S. Forest Service in a renovation of Dry Creek in the Gila Wilderness. This work was done to remove introduced brown and rainbow trout prior to the stocking of Endangered Gila trout (*Salmo gilae*), a native species, into this stream. In the past 3 years, recovery work for the Gila trout has involved stream improvement work on Iron Creek, building a barrier on Little Creek, and stream renovation and restocking with Gila trout. Now Dry Creek is being readied for a transplant from Spruce Creek. With the success of three transplanted populations, four of the five Gila trout populations will have been duplicated and the species can be considered for reclassification. Both the State of New Mexico and the Forest Service are to be congratulated for their excellent work toward the recovery of this Endangered species.

During periodic sampling of sediments along the Intracoastal Waterway adjacent to Aransas National Wildlife Refuge in Texas, the U.S. Army Corps of Engineers has turned up sediment samples containing up to 10,000 parts per million (1%) for oil and grease. Section 7 consultation on waterway dredging has been delayed until the impacts of hydro-

carbon exposure have been assessed in adjacent shallow bays where whooping cranes (*Grus americana*) are known to feed. Questions involving the spread of the materials into the food chain and their eventual impact on wintering whooping cranes at Aransas will have to be addressed.

This year was the most successful breeding season ever for Arizona's small desert population of bald eagles (*Haliaeetus leucocephalus*). Mr. Teryl Grubb of the U.S. Forest Service Rocky Mountain Forest and Range Experiment Station in Tempe, Arizona, reported that 15 pairs (including four that are newly discovered) laid eggs this year. Eggs failed to hatch at five sites, and nestlings succumbed to unknown causes at two additional sites. A total of 15 eaglets fledged from the eight remaining sites. Although all four new sites were found with eggs, only one of these—a most unusual nest in a ponderosa pine 8 miles from the nearest riverine habitat—yielded fledged young.

Peregrine falcon (*Falco peregrinus*) nesting success in the Big Bend area of west Texas was disappointing again this year. Only one eyrie fledged any young, which was comparable to last year's results. In a cooperative effort, the National Park Service and the Fish and Wildlife Service plan to retrieve eggshell fragments and prey remains from several of the eyries to determine if pesticide contamination might be a factor in the poor reproductive performance.

Region 4—The annual May visits to the known Alabama green pitcher plant (*Sarracenia oreophila*) colonies were held during the week of May 21 by the Jackson, Mississippi, Endangered Species Field Office in order to gather status information. Some very encouraging signs indicated that management actions initiated since last May are paying off. There was an obvious improvement in plant health and vigor, and increased flowering activity at many colony sites. The six colony sites burned during last winter's dormant season had the most noted response. Habitat conditions at all of the sites showed a marked improvement over last year, with noted reductions in competition from other plants.

The Jacksonville, Florida, Endangered Species Field Station personnel found that one of the few remaining sites for *Dicerandra immaculata* (Lakela's mint) had been destroyed by construc-

tion activities. A proposal to list this species as Endangered is expected to be published shortly in the *Federal Register*.

The Jacksonville Field Station is involved in a Section 7 consultation with the Federal Highway Administration (FHWA) concerning the completion of Interstate 75 from the Fort Myers area to Fort Lauderdale, Florida. Of primary concern in this issue is the Endangered Florida panther (*Felis concolor coryi*). Discussions are taking place with the National Park Service, the Florida Game and Fresh Water Fish Commission, and the FHWA to determine alternatives that might facilitate panther movement across the highway.

April was the height of the nesting season for the Endangered Mississippi sandhill crane (*Grus canadensis pulla*). Surveys found three nests, with two eggs in each nest. Nest 1 was in an area that has been used for 13 of the past 15 years. The two eggs were floated and showed no sign of embryonic activity. Nest 2 had a pipped egg in the process of hatching and a viable egg. A subsequent visit observed the first hatchling as a healthy chick which had left the nest. The second egg also hatched, but the chick appeared malformed and did not survive. Nest 3 was in an area cleared by the Young Adult Conservation Corps (YACC) several years ago. This was the third consecutive year for nesting in this area.

Region 5—Regional Director Howard Larsen, and Roger Hogan and Paul Nickerson of the regional endangered species staff presented six bald eagles from Nova Scotia, Canada, to Richard Cronin, Director of the Division of Fisheries and Wildlife in Massachusetts. The eagles were presented in a formal ceremony held at Hanscom Airfield in Bedford, Massachusetts, on June 14. On June 29, personnel from the Pennsylvania Game Commission, accompanied by Paul Nickerson, brought 12 bald eagles from Saskatchewan, Canada, for later release at two sites in Pennsylvania.

Region 6—On May 7, 1984, Region 6 personnel met with representatives from the Wyoming Game and Fish Department and University of Wyoming to discuss the Wyoming toad (*Bufo hemiophrys baxteri*). The toad, listed as Endangered on January 17, 1984, was once abundant in the Laramie Basin, Wyoming. Discussions centered on the

upcoming survey work, the current status of the toad, and future recovery activities.

Last year, only three toads were observed. Two immature toads that were collected during summer survey work died in captivity, and one adult was observed during the fall. Surveys conducted during May 1984 located seven male toads where the juveniles were found last year, a 7 to 8-square-mile area located on private land.

On June 13, representatives from the Fish and Wildlife Service, Bureau of Land Management, U.S. Forest Service, National Park Service, and the States of Idaho and Wyoming met in Jackson, Wyoming, to discuss the present and future management needs of the Gray's Lake flock of whooping cranes. Discussion centered on habitat management and modifications that may be considered in Wyoming, Montana, and Idaho, the need to finalize the whooping crane data base, and on the need for further utilization of Section 6 funds for developing activities dealing with these cranes.

The Service received a report on June 27 from the Utah Division of Wildlife Resources (UDWR) that 25 June suckers (*Chasmistes liorus*) had been killed by unknown individuals at the holding facility at Utah Lake. The UDWR

had been planning to obtain eggs from these captive fish. Previously, approximately 200,000 eggs had been taken and hatched. The UDWR also has implanted radio transmitters on nine June suckers and released them into Utah Lake. This fish was proposed for listing as Endangered on July 2, 1984. (See story in next month's BULLETIN.)

Interagency Grizzly Bear Committee (IGBC) members and representatives from three conservation organizations toured the Northern Continental Divide, Cabinet/Yaak, Selkirk, and Yellowstone grizzly bear ecosystems during the week of June 4, 1984. The main purpose of the tour, which was conducted by the Forest Service, was to familiarize IGBC members with the specific grizzly bear ecosystems and the problems/issues involved with each area. During the tour, the group met with five separate panels made up of local residents to discuss grizzly recovery and management efforts. Members also met with biologists from State wildlife agencies to discuss present and potential problems with grizzly management.

Region 7—After being eliminated from Agattu Island by introduced Arctic foxes (*Alopex lagopus*), Aleutian Canada geese (*Branta canadensis leucopareia*) are once again nesting on this island where they historically numbered in the

thousands. The Service successfully removed Arctic foxes from Agattu in the late 1970s. In an effort to reestablish a breeding population of the goose, the Service for the past four years has been releasing at Agattu wild family groups of Aleutian geese caught on Buldir Island. Although spring surveys in 1982 and 1983 revealed that small numbers of Aleutian geese were returning to Agattu and nearby Alaid/Nizki Islands, no evidence of nesting could be found.

This summer, Aleutian Islands Unit—National Wildlife Refuge personnel found 3 nests and observed a brood, confirming that the recovery effort is indeed succeeding. Two pairs of geese were also seen on Alaid/Nizki, where captive raised birds were released in 1981. More encouraging news came in from the field crew at Chagulak Island in the eastern Aleutian Islands. Until 1982, when a single Aleutian goose nest was found on Chagulak, the only known breeding population for Aleutian geese was Buldir Island. This summer, eight Aleutian goose nests were found at Chagulak in a relative short time. Many more pairs are thought to be nesting there.

Meanwhile, efforts to eliminate Arctic foxes from other Aleutian Islands are continuing. Amukta Island is now considered fox free, and already small numbers of Aleutian geese—probably from nearby Chagulak Island—have been seen on the island. The future of the Aleutian Canada goose looks brighter than it has for the past several decades.

Two Desert Fishes

continued from page 1

chubs in only three of the four spring-heads and none of the outflows. Accordingly, this once plentiful subspecies has been proposed for listing as Threatened (F.R. 6/6/84). The proposal included a designation of Critical Habitat for the four headwater springs of Fish Creek, their outflows, and a surrounding 50-foot riparian conservation zone to maintain water quality.

Comments on the proposed rule are welcome from all interested agencies, organizations, and individuals, and are due to the Regional Director, Region 1 (see page 2 of the BULLETIN for address), by August 6, 1984.

Sonora Chub

Another desert fish, the Sonora chub, inhabits an area in southern Arizona and adjacent Sonora, Mexico. This fish is a stream pool dweller, but it is highly secretive and little is known about its behavior or habitat preferences.

In the U.S., this small member of the minnow family occurs only in Sycamore Creek and its headwater tributary, Yank's Spring, located within the Coro-

nado National Forest in Santa Cruz County. Sycamore Creek normally flows only about 3.7 miles through a narrow riparian canyon, forming a series of pools and small riffles over a bedrock and rubble substrate. It is intermittent during various times of the year, but the pools are maintained by underground flow. During periods of heavy rainfall, the creek reaches the International Border, a short distance further, at which time the chub presumably moves downstream into the State of Sonora. The species is known from only a very

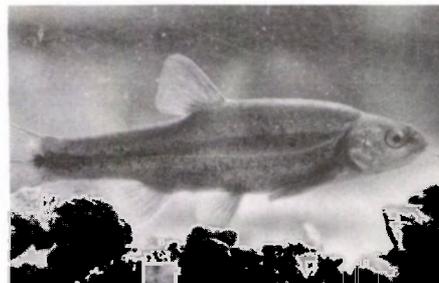


Photo by J. E. Johnson

The Sonora chub, a small (generally less than 125 mm total length) member of the minnow family, is distinguished by two prominent lateral bands and a dark spot at the base of the tail.

few sites in Mexico within the Rio Magdalena drainage.

Its extremely limited distribution makes the Sonora chub vulnerable to danger from almost any habitat disturbances, particularly during intermittent stream flow. A 1983 status survey prepared by C. O. Minckley, under contract to the Fish and Wildlife Service, recommended protection of the fish due to this restricted distribution and threats to the fragile habitat posed by potential actions such as introductions of exotic fishes and their parasites, siltation from mining operations, water pollution, and streamflow depletion. One threat originates from uranium deposits that were discovered during 1981 on the upper eastern slopes of the Sycamore drainage. Although no active mining is currently planned for the area, the claims are being maintained, and future mining carried out without regard for the habitat could have severe adverse effects on the chub. Accordingly, a proposal to list the Sonora chub as Threatened was published in the July 6, 1984, *Federal Register*. Included in the proposed rule is a designation of Critical Habitat for Yank's

continued on page 8

Two Desert Fishes

continued from page 7

Spring and a 5-mile stretch of Sycamore Creek, along with a surrounding 25-foot riparian conservation zone, all of which is within Coronado National Forest.

Comments on the proposal to list the Sonora chub are welcome, and are due to the Regional Director, Region 2 (address on page 2), by August 6.

Available Conservation Measures

If the listing proposals are made final, both fishes and their habitat will receive the protection authorized for Threatened species under the Endangered Species Act. Federal agencies are required to consult with the Fish and Wildlife Service to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the survival of listed species or adversely modify their Critical Habitat. Until a final decision is made on the listing proposals, Federal agencies must only "confer" with the Service, a non-binding procedure. No significant effects on current Federal activities are expected.

Because the threats to the survival of these two fishes are from habitat degradation rather than intentional taking, both listing proposals contain a special rule to allow collection without a Federal permit if State collecting permits are obtained and all other State wildlife regulations are satisfied. Such taking would be limited to educational, scientific, propagation, and other conservation purposes consistent with the Act. Incidental take by anglers would not violate the Act if the fish are immediately returned to the water.

Aside from the activities exempted by the special rules, all other protective prohibitions contained in 50 CFR 17.31 would apply. Other benefits of the listings would be the development of recovery plans and possible Federal funding of State conservation programs.

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	19	233	3	0	22	292	21
Birds	52	14	144	3	0	0	213	50
Reptiles	8	6	60	8	4	13	99	10
Amphibians	5	0	8	3	0	0	16	4
Fishes	30	3	11	12	1	0	57	30
Snails	3	0	1	5	0	0	9	6
Clams	22	0	2	0	0	0	24	1
Crustaceans	3	0	0	1	0	0	4	1
Insects	7	0	0	4	2	0	13	5
Plants	60	3	0	9	2	2	76	26
TOTAL	205	45	459	48	9	37	803	154**

*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 Recovery Plans approved: 132

Number of species currently proposed for listing: 37 animals
34 plants

Number of Species with Critical Habitats determined: 59

Number of Cooperative Agreements signed with States: 40 fish & wildlife
13 plants

June 30, 1984

Florida Alligator

continued from page 5

species. This comprehensive commitment by the Florida Game and Fresh Water Fish Commission to research and management of the species should ensure healthy alligator populations in the State.

The reclassification proposal, if it becomes final, will be a formal recognition by the Fish and Wildlife Service of the biologically secure status of the American alligator in Florida. By listing it under the Similarity of Appearance provisions of the Endangered Species Act, and enforcing the special rules for

American alligators in 50 CFR 17.42, the Service believes that the conservation of listed populations of the American alligator and other crocodylians can be ensured. The Similarity of Appearance provisions have already proven effective in the State of Louisiana.

Comments on this proposal are invited and are due by September 18, 1984, to the Jackson Endangered Species Field Station, U.S. Fish and Wildlife Service, Jackson Mall Office Center, Suite 316, 300 Woodrow Wilson Avenue, Jackson, Mississippi 39213.

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