

ENDANGERED SPECIES

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Endangered Species Program, Washington, D.C. 20240

Nine Mariana Islands Species Listed as Endangered

Seven birds and two bats native to the Territory of Guam and the Commonwealth of the Northern Mariana Islands, both part of an island group in the western Pacific, have been listed by the Service as Endangered (F.R. 8/27/84). All nine animals have declined drastically in both numbers and distribution, and several appear to be on the verge of extinction. It is hoped that they now will benefit from the provisions of the Endangered Species Act.

The islands of Micronesia, including the Mariana group, support relatively few native vertebrate animals, and unique species or subspecies often are restricted to a single island. Because of their limited range and specialized ecological needs, island animals and plants generally prove to be highly vulnerable to extinction, especially as their range is invaded by people and associated habitat disturbances, domesticated animals, introduced predators, and diseases. All of these factors probably contributed to the decline of the following native animals:

- **Guam flycatcher or broadbill (*Myiagra freycineti*)**. This small bird formerly occurred throughout all forested areas of Guam, but now is restricted to only about 373 acres at the northern end of the island. It is extremely rare and on the brink of extinction.
- **Mariana crow (*Corvus kubaryi*)**. Similar in appearance and habits to the common crow (*C. brachyrhynchos*) of North America, this bird occurs in reduced numbers only on the islands of Guam and Rota.
- **Mariana gallinule or moorhen (*Gallinula chloropus guami*)**. This dark, long-legged bird is a victim of habitat degradation by drainage of wetlands. Its numbers on Guam had declined to 100-200 birds by 1983, and there are small, very restricted populations on three other islands.
- **Micronesian kingfisher (*Halcyon cinnamomina cinnamomina*)**. Despite its common name, this bird does not catch fish like other members of its family, but forages in the forest for small land animals. It is another of the Guam endemics that has suffered significantly from habitat destruction.

Although once considered common, the Micronesian kingfisher now is restricted to less than one-fourth of its original range, and its decline is continuing.

- **Guam rail (*Rallus owstoni*)**. This flightless bird, which is also endemic to Guam and was once very numerous, has suffered a precipitous drop in range and numbers. Fewer than 50 are thought to remain, distributed in several small groups in extreme northern Guam. The species was temporarily listed as Endangered, on an emergency basis, in April 1984 when the habitat of one of the largest surviving groups was jeopardized by proposed land clearing activities at Andersen Air Force Base (see BULLETIN Vol. VIII No. 5). Protection for the Guam rail became permanent with the August 27, 1984, final listing rule.

There is some hope for this species in captivity. A pair of Guam rails at the National Zoological Park's facility at Front Royal, Virginia, have produced three young that, at last report, are doing well. Several adult rails that are being held in captivity by Guam wildlife officials also show promise for breeding success.

- **Vanikoro or gray swiftlet (*Aerodramus vanikorensis bartschi*)**. This bird, a small, insectivorous, cave-nesting species in the swift family, has virtu-

ally disappeared from two islands within its former range and is thought to be declining on at least two of the other three.

- **bridled white-eye (*Zosterops conspiciata conspiciata*)**. As late as 1981, it was estimated that about 2,000 individuals of this small, yellowish songbird remained in northern Guam. Since then, however, its numbers are thought to have plunged to fewer than 50 individuals. The sharp decline may still be in progress, making this subspecies one of the most critically endangered birds under U.S. jurisdiction.

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Photo by H. Douglas Pratt

Guam flycatcher (*Myiagra freycineti*)



Photo by H. Douglas Pratt

Mariana crow (*Corvus kubaryi*)



Regional Briefs

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

Region 1—There were 64 active peregrine falcon (*Falco peregrinus*) nesting pairs in California in 1984. Forty-seven successfully fledged 91 young, 12 failed

to hatch their eggs, and 5 didn't lay, for an average of 1.4 young per active site. Twenty-six of the forty-seven successful sites had their eggs removed for captive incubation and return of the chicks to the nest. Forty-four of the 91 young that fledged to the wild were reared in captivity. Eggshell thinning caused by DDE (a

metabolite of DDT) continues to be a chronic problem with this peregrine population. An additional 24 captive-bred peregrines were released at 8 California hack sites and 4 were cross-fostered to two pairs of prairie falcon (*Falco mexicanus*) parents.

Four bald eagle (*Haliaeetus leucocephalus*) nestlings were taken from northern California for release on Santa Catalina Island, which is off the State's southern coast. These eagles have successfully fledged from release sites to join the 8 to 10 eagles remaining on the island from the 16 released therein previous years. There are two known pair bonds among the earlier released birds, but these birds are still too young to breed.

Chevron U.S.A. and the Sacramento Endangered Species Office are cooperating on a rehabilitation program for a 1.5-acre remnant of sand dune habitat located within Chevron's El Segundo Refinery. The dune remnant provides habitat for the Endangered El Segundo blue butterfly (*Euphilotes (=Shijimiaeoides) battoides allyni*). The majority of the butterfly's habitat is found on approximately 90 acres of dunes along the western border of Los Angeles International Airport. At the refinery site, the Service has provided seedlings of the butterfly's foodplant, and Chevron is planting the seedlings, monitoring their growth, and removing any competing plants. Initial results have been successful and have expanded feeding and egg-laying sites for the butterfly on this small "island" of habitat.

Of the 40 least Bell's vireo (*Vireo bellii pusillus*) nests checked along the San Luis Rey, Sweetwater, and San Diego Rivers in 1984, over 95 percent had been parasitized by brown-headed cowbirds (*Molothrus ater*). Parasitized nests seldom produce any vireo young. It appears that a systematic cowbird trapping program will be necessary to preserve many remaining subpopulations and to recover the vireo from its precarious status. A listing package is currently under review for this Category 1 candidate bird.

The Coachella Valley fringe-toed lizard (*Uma inornata*) Habitat Conservation Plan (HCP) is nearing the final draft stage. The Steering Committee drafted and released a summary of the HCP on July 27, 1984. The summary is available to all interested parties through the regional office. To date, one preserve

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U.S. Fish and Wildlife Service 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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has been established and the Bureau of Land Management (BLM) is recommending the establishment of a second preserve on land it administers. Actions to establish the third and largest preserve are also progressing. The BLM and The Nature Conservancy are effecting a land swap. Congress is acting on a request to appropriate funds for a land purchase, and local government agencies are collecting fees to acquire part of the preserve. A projected date for completion of the effort is August 1985.

The plans for creating additional stream habitat on the Moapa National Wildlife Refuge were recently completed. The rehabilitation plans would add 460 feet of stream to the 600 feet of suitable Moapa dace (*Moapa coriacea*) habitat already on the refuge. Bid solicitation for the proposed work will be released soon, and channel construction should begin shortly thereafter.

The Service's Great Basin Office in Nevada is conducting a survey of the Muddy River system to determine the distribution and relative abundance of the Moapa dace. With the survey approximately 35 percent complete, dace have been found in three spring systems off refuge property, accounting for an estimated 500 adults.

A Regional Brief item in BULLETIN Vol. IX No. 6 to the effect that *o'opu alamo'o* (*Lentipes concolor*), a native fish that is a Category 2 candidate for future listing, have been discovered spawning in Ho'okele'kele Stream on the Island of Hawai'i was in error. In the Draft Coordination Act Report for the Wailuku-Honolii Hydro-power Study, authored by John Ford and Andy Yuen of the Service's Honolulu office, it states that no evidence of spawning, recruitment, or egg masses were found in the affected reach. Yuen did find what appeared to be a single gravid female; however, the fish was not caught and its reproductive status could not conclusively be established. Ford and Yuen suspect that they found egg masses of *Lentipes concolor* in upper Hanawi Stream on Maui during an in-stream flow study in April 1984, but the spawning of this species remains an elusive event to document.

Region 2—Two public meetings were held for the listing of the Pecos bluntnose shiner (*Notropis simus pecosensis*) in Artesia and Albuquerque, New Mexico. Questions from the 26 participants ranged from how the designation might affect bait fish seining in the Pecos River to why the proposed Critical Habitat area extended 15 meters on

either side of the stream. All of the comments from these meetings will be summarized and addressed in the final listing package.

Dr. Glen Clemmer (FWS, Fort Collins, Colorado) has begun a small survey for the other subspecies of bluntnose shiner, *N. s. simus*, which is found only in the Rio Grande of New Mexico. Last located in 1964 by Dr. Clemmer, the Rio Grande subspecies was not included in the Pecos bluntnose shiner listing package because there is a possibility that it is extinct. Due to the difficulty in determining if an organism is truly extinct, Dr. Clemmer's work is only the first phase of a two-phase project in cooperation with the New Mexico Department of Game and Fish to survey the historic range of the Rio Grande bluntnose shiner.

One of the ten Sonoran pronghorn (*Antilocapra americana sonoriensis*) radio-collared last October was found dead in July. The "mortality" transmitter on the animal failed to function, so by the time the remains were recovered it was not possible to determine the exact cause of death. However, all indications point to natural mortality. The skeletal remains of the male pronghorn will be sent to the National Museum to be added to the taxonomic collection.

During July and August, three more ocelots (*Felis pardalis*) were captured on private lands in south Texas—an adult male, an adult female, and a 5-pound male kitten that was accompanying the female. Both adults were radio-collared,

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Miccosukee Gooseberry Proposed for Listing as Threatened

The Miccosukee gooseberry (*Ribes echinellum*), a rare and vulnerable plant known only from two locations in Florida and South Carolina, has been proposed by the Service for listing as a Threatened species (F.R. 8/31/84). Its limited habitat could be damaged by potential development and logging activities.

The plant was first discovered in 1924, growing along the shore of Lake Miccosukee in Jefferson County, Florida. It was more than 30 years later that the only other known population was found about 200 miles to the northeast in McCormick County, South Carolina. (Botanists consider the South Carolina location to contain one of the most unusual assemblages of plants in the Carolinas.)

Ribes echinellum is a unique shrub that reaches one meter in height and forms patches that often measure several meters in diameter. It has spiny stems and three-lobed leaves 1-2 centimeters in length. The small flowers are greenish white. Gooseberries are cultivated for their ornamental appearance and their edible fruit. Although *Ribes echinellum* currently is not in commercial demand, the proposed listing could help to ensure long-term protection.

The potential for habitat degradation is the main threat to *Ribes echinellum*. Its localized range at only two sites makes the species particularly vulnerable to any human-related habitat disturbances. The South Carolina population occurs on lands managed as a nature preserve by South Carolina, but increased visitation to the area could jeopardize the plant by increasing the risks of trampling and accidental destruction.

Further research is needed on the species' biology to determine what kind of management it needs. The long-term prospects for the survival of *Ribes echinellum* in Florida are more problematical. This population is on privately owned land and the site has some potential for development. Although the current owner has no such plans for the site, future owners could decide to use it for recreational or residential development. Logging of the hardwood trees associated with the habitat also could jeopardize the population. Some nearby areas have already been logged.

If the proposed rule is made final, *Ribes echinellum* will receive the protection authorized under the Act for Threatened plants. Interstate and international trafficking in this plant will be prohibited, except for properly documented seeds of cultivated specimens. (Permits to carry out otherwise prohibited activities could be available for certain conservation purposes.) Further, under Section 7 of the Act, Federal agencies will be required to ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the species' survival by directly affecting the plants or by adversely modifying their habitat. Section 7 protection will apply even though the vulnerability of *Ribes echinellum* to collection for its fruit-bearing and ornamental values makes it imprudent to publicize the population sites with a formal designation of Critical Habitat. These conservation measures will complement the protection already given the species under Florida's own endangered species legislation, which prohibits taking, transport, and sale of the plant but does not control habitat degradation.

Protection Given to Three Rio Yaqui Fishes

Three species of fish, once found throughout the Rio Yaqui Basin which drains southeastern Arizona and adjacent areas in Mexico, have been added to the list of Endangered and Threatened species. The Service has listed the Yaqui chub (*Gila purpurea*) as Endangered, and the Yaqui catfish (*Ictalurus pricei*) and beautiful shiner (*Notropis formosus*) as Threatened (F.R. 8/31/84). All three fishes will now receive protection under the Endangered Species Act.

The three Rio Yaqui species are seriously affected by a variety of habitat modifications. These fishes existed in San Bernardino Creek, Arizona, until the spring flows supporting the creek diminished and the remaining aquatic habitat was destroyed by cattle. Diverting stream headwaters, constructing impoundments, and excessive pumping of underground aquifers are responsible for the reduction in the species' stream habitat. The remaining U.S. populations of Yaqui chub are limited to a few springs on San Bernardino National Wildlife Refuge and to Leslie Creek, both in southeastern Arizona. The shiner and Yaqui catfish have been extirpated from the United States, but they are still found in Mexico. These populations are being affected by the modification of river systems for irrigation agriculture.

Another serious threat to the fishes is the introduction into their habitat of closely related exotic species. Future releases of the red shiner (*Notropis lutrensis*) into the Rio Yaqui system may cause a reduction in beautiful shiner populations through competition or genetic swamping. The Yaqui catfish may be similarly affected by the expanding channel catfish (*Ictalurus punctatus*) and blue catfish (*I. furcatus*) populations that have been introduced and are already established in the Rio Yaqui drainage. This type of interaction has proven to be detrimental to other native fishes found in the same drainage, as shown by the rapid elimination of the Gila topminnow (*Poeciliopsis occiden-*

talis), which was listed as Endangered in 1967. The establishment of exotic fish species in Mexico may also result in intense competitive pressure on existing populations of the Yaqui chub.

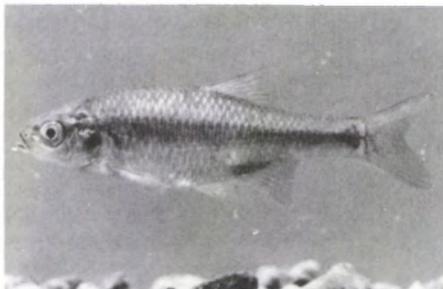
On July 15, 1983, the Service published a proposed rule to list the three fishes with Critical Habitat (see BULLETIN Vol. VIII No. 8). Five responses to the proposal were received, all from U.S. State and Federal agencies and the Government of Mexico, supporting the addition of the fishes to the list of Endangered and Threatened species. No comments in opposition were received.

The area designated as Critical Habitat for the Rio Yaqui fishes consists of all the aquatic habitats of the San Bernardino National Wildlife Refuge (NWR) in Cochise County, Arizona. These habitats provide areas for the remaining Yaqui chub population to expand and recover, and are considered by the Service to be prime U.S. reintroduction sites for the beautiful shiner and the Yaqui catfish.

As listed species, all three fishes and their habitat will receive the protection authorized under the Endangered Species Act. This includes recognition of their precarious status, development of plans for their recovery, and possible Federal aid to State conservation programs.

Under Section 7 of the Act, Federal agencies are required to consult with the

Photo by John N. Rinne



beautiful shiner (*Notropis formosus*)

Fish and Wildlife Service to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the survival of any listed species or adversely affect their habitats. The only possible Federal activity that may affect these species or their habitat is that of geothermal exploration on property administered by the Bureau of Land Management in San Bernardino Valley. This activity is beyond the boundaries of the San Bernardino NWR, but it could affect underground aquifers supplying surface waters to the Critical Habitat.

In addition, other regulations make it illegal to take, possess, sell, or engage in interstate or international trafficking in Endangered or Threatened species, except under permit. For the two fishes listed as Threatened, the Yaqui catfish

and the beautiful shiner, a special rule has been included to allow take of these species for educational, scientific, or conservation purposes if done in accordance with Arizona State laws and regulations. Although neither of these species is known to survive in Arizona waters, the special rule will apply if any reintroductions are made.

Critical Habitat Designated for Maryland Darter

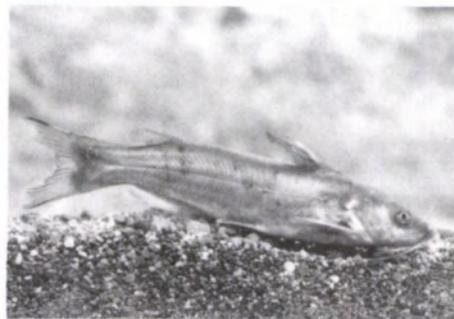
Short sections of two small streams in eastern Maryland have been designated as Critical Habitat for the Endangered Maryland darter (F.R. 8/31/84). This small member of the freshwater perch family was listed as an Endangered species in 1967. One small population is known from one to two miles of lower Deer Creek, which was designated by the State of Maryland in 1973 as a scenic river. A short stretch of a nearby stream, Gashey's Run (or Gashey's Creek), also may support a breeding population. The Maryland darter has specific habitat needs, requiring clean, shallow, well-oxygenated riffle areas. It seldom has been seen in even the nearby quiet sections of the stream channels.

The Critical Habitat designation was originally proposed in 1978, but was delayed because of changes in the procedural requirements for making such designations. The final Critical Habitat rule, which was based on the recommendations of the State of Maryland, the Maryland Darter Recovery Team, and Fish and Wildlife Service biologists, delineates 2.8 miles of the two streams that appear sufficient for population growth and normal behavior. The Critical Habitat designation reemphasizes the habitat protection that the darter already benefitted from under Section 7 of the Endangered Species Act. Federal agencies are required to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the survival of the Maryland darter or adversely modify its Critical Habitat.

Reference Note

All Service notices, along with final and proposed rulemakings, are published in full detail in the *Federal Register*. The parenthetical references given in the BULLETIN—for example, (F.R. 8/20/84)—identify the date that the notice or rulemaking action appeared in the *Federal Register*.

Photo by John N. Rinne



Yaqui catfish (*Ictalurus pricei*)

Final Action on Rules Affecting Four Florida Keys Animals

The Service has completed action on two separate rules affecting a total of four animals that occur in the Florida Keys. The Key Largo woodrat and cotton mouse, which earlier had been protected under a temporary emergency action, were given final protection as Endangered species (F.R. 8/31/84). Another rule, published the same day, reclassified the Schaus swallowtail butterfly from Threatened to Endangered and removed another subspecies, the Bahama swallowtail butterfly, from the list of species protected under the Endangered Species Act (F.R. 8/31/84).

Key Largo Woodrat and Cotton Mouse

Both the Key Largo woodrat (*Neotoma floridana smalli*) and cotton mouse (*Peromyscus gossypinus allapaticola*) are distinct subspecies native to Key Largo in Monroe County, Florida. They formerly occurred throughout forested areas on the island, but widespread development has restricted them to remnant habitat on the northern end. (A small population of the woodrat has been established on Lignumvitae Key, where it is not native.) Both species avoid humans and developed areas, and have not been implicated in spreading any human diseases.

Due to their reduced range, specific habitat requirements, and low numbers, both rodents are extremely vulnerable. They were first listed as Endangered on September 21, 1983 (see BULLETIN Vol. VIII No. 10), on a 240-day emergency basis after it was learned that a proposed electrical delivery system could result in development of their remaining habitat. A proposal to make the listing permanent was published in the February 9, 1984, *Federal Register*. Comments received in response to the proposal, along with the Service's replies, are summarized in the August 31, 1984, final listing rule.

Two Swallowtail Butterflies

The Schaus (*Heraclides (Papilio) aris-todemus ponceanus*) and Bahama (*Heraclides (Papilio) andraemon bonhottei*) swallowtail butterflies are representatives of tropical species that reach their northern limits of distribution in southern Florida (Dade and Monroe Counties). Both are rare in the U.S., and were listed in 1976 as Threatened.

Additional research toward the recovery of the butterflies was recently carried out by the Florida Game and Fresh Water Fish Commission, funded in part

by the Fish and Wildlife Service under Section 6 of the Endangered Species Act. The Commission found that the Bahama swallowtail is only an occasional migrant to south Florida from a stable, non-subspecifically distinct population found throughout the Bahama Islands, and therefore is not in need of (or eligible for) continued protection under the Act. Unfortunately, the status of the Schaus swallowtail, which is a distinct U.S. resident, was discovered to have deteriorated to the brink of extinction, due primarily to habitat loss. After reviewing the data, the Service proposed on August 29, 1983, to delist the Bahama swallowtail and reclassify the Schaus swallowtail under the Act to Endangered. The final rule was published on August 31, 1984. This is the first time that the legal status of any federally listed species has been changed from Threatened to the more critical classification of Endangered.

One of the main purposes of the Endangered Species Act, as stated in Section 2, is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved. . . ." One of our nation's most unique ecosystem types is the tropical hardwood hammock; it also is one of the most limited and vulnerable. Once found throughout the Keys and into peninsular Florida, these hammocks have been extensively modified or destroyed through residential and recreational development, and those on north Key Largo represent some of the largest remaining tracts. These constitute the only tropical upland plant communities in the continental U.S., and many rare plants and animals depend on the particular ecological conditions in these areas. Conservation of the remnant hammocks is vital to the survival of the Schaus swallowtail butterfly and the Key Largo cotton mouse and woodrat.

Available Conservation Measures

As Endangered species, the Schaus swallowtail butterfly and the Key Largo woodrat and cotton mouse will receive the full habitat protection authorized under Section 7 of the Federal Endangered Species Act. (All three species were already recognized by Florida as endangered and receive some protection under its own endangered species legislation, but State law does not provide for habitat conservation.) Although a formal Critical Habitat designation for the two rodents has not yet been com-

pleted, the Service expects to publish a final determination within the near future after potential economic and other impacts are considered. Critical Habitat for the Schaus swallowtail was not designated since the butterfly is popular with collectors, and pinpointing its territory could place it in even greater jeopardy.

Collecting of the protected butterfly and mammals, as well as possessing, transporting, and interstate/international trade in these animals, is prohibited, except under permit. Although the Schaus swallowtail already was covered under these protective measures, reclassifying it to Endangered will allow the Service to give increased priority to its recovery needs. The final rule also removes the non-endangered Bahama swallowtail from protection under the Act.

Mariana Islands

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- **Mariana fruit bat (*Pteropus mariannus mariannus*)**. Due to over-exploitation for consumption as a human delicacy, the Guam population of this relatively large bat has declined to only about 500 individuals and has been listed as Endangered. Populations on other islands in the northern Marianas apparently are not in danger of extinction at this time.
- **little Mariana fruit bat (*P. tokudae*)**. This bat is endemic to Guam, and is subject to the same problems facing the larger fruit bat. No specimens of the little Mariana fruit bat are known to have been collected since the 1960s, but it is difficult to identify in the field.

Habitat loss has probably played a part in the decline of all nine animals; however, the rapidity and severity of the most recent decline, along with the presence of some suitable but currently unoccupied habitat, indicates that other problems are more severe. Avian diseases, spread by an introduced tropical mosquito (*Culex quinquefasciatus*), have been a major problem in some areas, and this factor is being investigated by the Guam Aquatic and Wildlife Resources Division with Fish and Wildlife Service funding. Predation by introduced animals may be the most serious reason for the recent devastation of native Guam birds. The brown tree snake (*Boiga irregularis*), also known as the Philippine rat snake, has become widespread on Guam. This arboreal snake could easily prey on eggs, hatchlings, and roosting birds. An indication of the explosive growth in the population of this predacious species is the greatly increasing number of power outages caused when the snakes ascend power-line poles and accidentally short-circuit

the transmission cables; the ground underneath is littered by dead snakes. A variety of other exotic animals also may threaten native birds, particularly the flightless rail.

The nine Guam species were proposed for listing as Endangered in the November 29, 1983, *Federal Register*. For more information on the problems facing Guam's wildlife, see the proposed rule, the August 27, 1984, final rule, or BULLETIN Vol VIII Nos. 1 and 12.

Available Conservation Measures

Since the Territory of Guam and the Commonwealth of the Northern Mariana Islands are under U.S. jurisdiction, all nine of the animals listed in the August 27, 1984, final rule will receive the full protection authorized under the Endangered Species Act of 1973, as amended. The benefits conferred by such a listing include an increased awareness of the species' plight, the requirement for developing a recovery plan, the possibility of Federal aid to local conservation programs, and prohibitions against certain practices. Among the implementing regulations in 50 CFR 17.21 are general prohibitions against such practices as taking, possessing, transporting, and interstate or international trade in Endangered species, except under permit.

A formal designation of Critical Habitat for the nine Guam animals was not made at the time of listing; nevertheless, these taxa and their habitat will receive the full protection authorized under Section 7 of the Act. Federal agencies must ensure that any actions they fund, authorize, or carry out are not likely to jeopardize the survival of the listed species or adversely modify their habitat. The only Federal activity currently known that could have a potentially adverse impact on any of the species is the proposed clearing of land containing Guam rail habitat on Andersen Air Force Base. The Air Force is aware of the situation, and is consulting with the Fish and Wildlife Service on ways to improve base security while conserving the rail's habitat.



Photo by H. Douglas Pratt

Micronesian kingfisher (*Halcyon cinnamomina cinnamomina*)



Mariana fruit bat (*Pteropus mariannus mariannus*)

Photo by Gary J. Wiles
Guam Division of Aquatic and Wildlife Resources

Endangered Status for Three Western Plants

The protection of the Endangered Species Act has been extended to three plants found in the western United States. Two species native to southern California, *Thelypodium stenopetalum* (the slender-petaled mustard) and *Sidalcea pedata* (the pedate checker-mallow), along with *Frankenia johnstonii*, which is known only from a few sites in Texas and one in Mexico, have been listed as Endangered.

Sidalcea pedata, a member of the mallow family, is a multi-stemmed, perennial herb that bears pinkish-rose flowers. *Thelypodium stenopetalum* is a herbaceous, short-lived perennial having flower petals of lavender or white. Both species grow in the moist alkaline meadows of Big Bear Basin in San Bernardino County, southern California. Although the plants were once abundant, the impoundment of Big Bear Lake in the 1800s and subsequent urbanization have eliminated nearly all of the natural meadowlands in Big Bear Valley—an estimated reduction of from over 7,000 acres to about 1,000 acres. In addition to loss of habitat, these activities also directly destroyed most of the checker-mallow and mustard plants.

More than 85 percent of the historic meadowland habitat that once supported these plants has been eliminated by urban or commercial development and dam construction. Most of the remaining habitat is subject to further development or modification. The pedate checker-mallow occurs in significant numbers at only three locations, all on

private land. Scattered individuals can also be found in a few other areas, but these plants apparently do not reproduce and are expected to die out. The slender-petaled mustard is known to grow in four locations, three of which are privately owned. The fourth site, at Holcomb Valley, is located on National Forest land. The U.S. Forest Service is aware of this population, and has implemented protective measures at the site.

Both *Thelypodium stenopetalum* and *Sidalcea pedata* were proposed for listing as Endangered species on July 15, 1983 (see BULLETIN Vol. VIII No. 8). Seven responses to the proposal were received, all with favorable comments, and they are summarized in the August 31, 1984, final rule.

Frankenia johnstonii occurs in southwestern Texas, and is restricted to five small populations in an area of Zapata and Starr Counties about 35 miles in radius. Several hundred plants also occur near Monterey in Nuevo Leon, Mexico. The species is a small perennial shrub, averaging about 31 centimeters tall, with a blue-green color, a wiry appearance, and tiny white flowers.

All known populations are on privately owned rangelands that are in poor condition. The branches of most plants are hedged or clipped, conditions common on shrubs that have been grazed by cattle. Grazing may also account, at least in part, for the plant's low reproductive success.

Frankenia johnstonii was proposed in the July 8, 1983, *Federal Register* for list-

ing as an Endangered species (BULLETIN Vol. VIII No. 8). Of the six comments received on the listing proposal, none opposed the action. The Texas Parks and Wildlife Department was among the supporters, and the final rule listing *Frankenia johnstonii* as Endangered was published by the Service on August 7, 1984.

Available Conservation Measures

As Endangered species, all three plants will receive all the protection authorized under the Endangered Species Act, including recognition of their precarious status, development of plans for their recovery, and the possible availability of Federal aid to fund cooperative State conservation activities. In addition, under Section 9 of the Act, it is illegal to remove and reduce to possession Endangered plants from areas under Federal jurisdiction. This prohibition now applies to the slender-petaled mustard on Forest Service lands in the Holcomb Valley. Further, Section 9 also prohibits interstate or international trafficking in Endangered plants. Permits for these otherwise prohibited activities are available, under certain circumstances, for approved scientific or conservation purposes.

Critical Habitat is not being designated for any of the three plants at this time. Such a designation might encourage vandalism or private or commercial collecting, especially since a Critical Habitat designation requires the publication of range maps and detailed descriptions of population sites. Nevertheless, they will receive the full protection authorized under Section 7 of the Act, which requires Federal agencies to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the survival of the species or adversely modify their habitat.

Experimental Population Regulations are Approved

Procedures for establishing and designating certain populations of listed species as "experimental populations" have been approved by the Service (F.R. 727/R14). The new regulations implement Section 10 (j) of the Endangered Species Act, as amended in 1982, and are intended to encourage greater State and local participation in species recovery efforts by increasing the flexibility in management of newly established populations.

In the past, plans to reestablish Endangered and Threatened species in unoccupied parts of their historical ranges sometimes met with local opposition because of the legal prohibitions associated with listed species. In 1982, Congress recognized the problem and authorized the experimental population concept. An experimental population is defined as a reintroduced population (including offspring) of a listed species that is geographically isolated from the non-experimental populations of the same species during specific periods of time.

Experimental populations can be classified in one of two categories, "essential" or "nonessential." An essential experimental population is one whose loss would appreciably reduce the likelihood of the survival of the species in the wild. All other experimental populations would be classified as nonessential, and it is anticipated that most would fall into this category.

Under the experimental population designation, listed species would be treated as Threatened, a classification that allows for more exceptions to the taking prohibitions through special regulations (50 CFR 17.84-.86) for the management of each individual population.

Section 7(a)(2) prohibits Federal agencies from authorizing, funding, or carrying out any activity that would be likely to jeopardize the survival of an Endangered or Threatened species. This provision would continue to apply for essential experimental populations and all experimental populations (both essential and nonessential) located on National Wildlife Refuges or National Parks. It would no longer apply to other nonessential experimental populations. However, Federal agencies would still be asked to confer (a non-binding process) with the Service and to treat nonessential experimental populations as if they were species proposed for listing under Section 7(a)(4).

The experimental population regulations were proposed in the January 9, 1984, *Federal Register*. Several minor changes were made in response to some of the comments received; see the August 27, 1984, final rule for details.

Regional Briefs

continued from page 3

and all three animals were released. The total number of ocelots captured and examined by the ongoing south Texas study now stands at 18.

On July 24 and 25, public hearings were held in Tucson and Sasabe, Arizona, on the draft environmental assessment concerning the proposed acquisition of the Buenos Aires Ranch. This ranch com-

prises the only remaining habitat in the U.S. for the masked bobwhite (*Colinus virginianus ridgwayi*). Approximately 100 people attended the Tucson hearing, with comments for and against the proposal evenly divided. In Sasabe, a small border town southwest of Tucson and just south of the ranch, approximately 60 people attended with the majority of comments favoring the proposed action. The environmental assessment is now being finalized.

A recently completed status survey on the Texas Henslow's sparrow (*Ammodramus henslowii houstonensis*) indicates that this subspecies may be extinct. Henslow's sparrow occurred in grassy fields near Houston in Harris County, Texas. In 1973, at least 71 birds were recorded, but only a single sparrow was heard in 1983. A further search in 1984 by Dr. Keith Arnold (Texas A & M University) failed to locate any of these birds.

An interim status report by Joe Marshall, Roger Clapp, and Joseph Crzybowski of the Service on the status of the black-capped vireo (*Vireo atricapillus*), a Category 2 candidate for listing, indicates that this species is in serious trouble in Oklahoma. Only two nesting pairs were recorded from a single site this year. Further information will be forthcoming concerning this species' status in Texas. However, past records indicate that its current range may be less than half the range reported in the late 1950s.

Region 4—The Jacksonville, Florida, Endangered Species Field Station has been working closely with the Jacksonville District of the U.S. Army Corps of Engineers in an attempt to better define direct and indirect impacts of marina development on the Endangered West Indian manatee in Florida (*Trichechus manatus*). The Fish and Wildlife Service is concerned that increased marina development in manatee Critical Habitat may increase the number of manatees killed as a result of boat collisions. There are many areas in the State where the Service does not have adequate information on manatee distribution or important manatee resources such as warm water outflow, grassbeds, and shallow and fresh water. As a result of these concerns and the increase in the number of permit applications for marinas, the Service has been working with the Corps on developing a series of studies to attempt to answer some of these distribution questions and to better define critical areas or "hot spots" in Florida where marina development would not be in the best interest of the manatee.

Region 5—The Service's Region 5 Office and the Eastern Regional Office of The Nature Conservancy have recently entered into an agreement to conduct range-wide status surveys on 13 plant candidates and one invertebrate, the dwarf wedge mussel (*Alasmidonta heterodon*), which occur in the eastern and southeastern United States. The project will be initiated this fall and continue through the 1985 field season. The regional endangered species staff plans to expand the project to include additional candidate species as funds become available.

The initial phase of the project will primarily focus on those plants associated with two habitat types that are under ever increasing pressure from development: intermittent ponds (also called Delmarva bays) of the Mid-Atlantic coastal plain and pine barrens plant communities (which include bogs and wetlands). The intermittent freshwater ponds are often ditched and drained to increase agricultural production. The Chesapeake Bay region has been particularly affected by agricultural drainage. The coastal pine barrens of Cape Cod, Massachusetts, Long Island, New York, and southern New Jersey have likewise been impacted by increasing development and suburban sprawl.

The Nature Conservancy, along with each individual State Heritage Program's existing data base and field personnel, will play a significant role in the project. Botanists from New Hampshire to Georgia are expected to be involved. The information developed from the cooperative project will be used to support the listing of those plants that are currently under Federal review or to drop them from further consideration, whichever is appropriate. Those seeking further information on the project should contact Dick Dyer at the Service's regional office, telephone number (617)965-5100, extension 316.

Region 6—Research activities continue on the black-footed ferret (*Mustela nigripes*) population near Meeteetse, Wyoming. These activities are being conducted jointly by the Fish and Wildlife

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	18	19	233	4	0	22	296	21
Birds	59	13	144	3	1	0	220	50
Reptiles	8	6	60	8	4	13	99	10
Amphibians	5	0	8	3	0	0	16	4
Fishes	29	4	11	13	3	0	60	30
Snails	3	0	1	5	0	0	9	6
Clams	22	0	2	0	0	0	24	3
Crustaceans	3	0	0	1	0	0	4	1
Insects	8	0	0	4	0	0	12	5
Plants	64	5	1	9	2	2	83	27
TOTAL	219	47	460	50	10	37	823	157**

*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, Olive ridley sea turtle, and leopard.

**More than one species may be covered by some plans, and a few species have more than one plan covering different parts of their ranges.

Number of Recovery Plans approved: 136

Number of species currently proposed for listing: 29 animals
30 plants

Number of Species with Critical Habitats determined: 63

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

August 31, 1984

Service, the Wyoming Game and Fish Department, and Biota Research and Consulting, Inc. This is a continuation of studies that were initiated in 1982 to determine the ecological requirements, population dynamics, movements, etc. of the black-footed ferret.

The annual summer census of the population has been completed. This year, the population has been estimated at 124 ferrets, with 24 litters. This is an increase from last year, when the population was estimated to be 88 ferrets, with 16 litters. In addition, 11 ferrets were fitted with radio collars this year.

Region 7—Eighty-six Aleutian Canada geese (*Branta canadensis leucopareia*) were captured on Buldir Island last month and successfully released on nearby Agattu Island. This makes approximately 400 birds that have been transplanted to this island since 1980.

Hopefully, some of the young geese from this and prior transplants will join the small breeding population that has become reestablished there this year.

Elsewhere in the western Aleutians, a 5-week effort by two animal damage control personnel from Region 6 succeeded in eliminating introduced Arctic foxes (*Alopex lagopus*) from 6,800-acre Rat Island.

In the eastern Aleutians, a banding effort on Chagulak Island resulted in the capture and banding of 20 geese. These birds were banded with green leg bands to facilitate their identification and tracking in their wintering ground. It is estimated that over 100 birds are present on this mountainous island, which is about 550 miles from the Buldir Island population. Nearby Amukta Island was made fox-free last summer, and a small number of Aleutian geese are already using this 12,400-acre island for loafing and foraging.

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