

ENDANGERED SPECIES

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

Wyoming Toad Proposed as Endangered

An extremely rare subspecies of amphibian, the Wyoming toad (*Bufo hemiophrys baxteri*), has been proposed by the Service for listing as Endangered (F.R. 1/27/83). This toad was formerly abundant throughout the Laramie Basin, but currently no populations are known to exist. Although the cause of its steep decline is not yet determined, habitat alteration and the use of various biocides may be significant factors.

The Wyoming toad was discovered by Dr. George T. Baxter in 1946. It is the only toad in the Laramie Basin, and is thought to be a relict population left behind as glaciers receded. Since its discovery, Dr. Baxter has taken University of Wyoming students during summers to observe the toad, and known breeding sites have been visited regularly for more than 30 years. Dr. Baxter's field notes indicate that the toad was common in the Laramie Basin through the early 1970's. Since 1975, however, researchers have noted a decline in the population. Toads became extremely rare between 1976 and 1978, and in 1979 none were seen although one was heard calling.

An intensive survey conducted throughout the Laramie Basin in 1980 resulted in the discovery of one small population on private land in Albany County, southeastern Wyoming. The

population occurred within a 40-acre area and was estimated to consist of no more than 25 individuals. Surveys in 1981 revealed only one male and one female at the site, and no toads were located in 1982.

Threats to the Population

Several factors are suspected in the decline of the Wyoming toad. Drainage of the plains adjacent to the Little Laramie River for irrigation and other purposes may have resulted in the drying of habitat and interfered with tadpole development. Certain uses of herbicides and insecticides could prove to be another threat. Atrazene, a herbicide, is known to decimate populations of *Bufo*, and can be introduced into watersheds in sufficient levels to kill *Bufo* eggs or tadpoles. This chemical is widely available throughout the Laramie Basin. Other herbicides, such as Tordon, are more commonly used, and their effects on amphibians are largely unknown. These chemicals are used for control of "noxious weeds" along roadside ponds and field edges typically used by the Wyoming toad. In addition, basin-wide aerial application of Baytex (Fenthion) with diesel fuel began in 1975 for mosquito control. This technique may be

highly toxic to bufonids, and there is evidence that diesel fuel alone is harmful to amphibians.

Predation is another significant threat due to the reduced population. The California gull (*Larus californicus*) population in the area has increased dramatically in recent years. Local ranchers report that their fields are literally white in spring from gulls. Other predators, including raccoons, foxes, and skunks, also have shown increases.

Effects of the Proposal

If the proposed rule is approved, the Wyoming toad would receive the protection authorized under the Endangered Species Act. All prohibitions under 50 CFR 17.21, including those on taking and interstate/international trafficking, would apply. Certain exceptions could be allowed under special permit, in accordance with 50 CFR 17.22 and 17.23, for conservation and economic hardship. The toad would also receive protection under Section 7 of the Act, which directs all Federal agencies to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize a listed species or degrade its habitat. Since breeding sites have not been located recently, and because only a relatively small amount of the potential habitat in the Laramie Basin has been surveyed, the Service believes it would

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Service Proposes Seventeen Reptiles

The Service has proposed Endangered or Threatened status under the Endangered Species Act of 1973 for 17 species of foreign reptiles (F.R. 1/20/83). If finalized, this proposed rule will provide additional protection to wild populations of these species (listed below) and allow cooperative research programs to be undertaken in their behalf.

- Serpent Island gecko—This lizard is restricted to Round Island (151 hectares) where it is rare and Serpent Island (20 hectares) where it is considered very rare; both islands are near Mauritius. Rabbits and goats were introduced onto Round Island in 1840 and these animals have destroyed the island's vegetation so that severe erosion has resulted. The

loss of this vegetation is thought to have resulted in loss of available habitat for this species. Predation is also thought to have contributed to the species' scarcity. There are estimated to be between 3,600 and 4,500 lizards remaining.

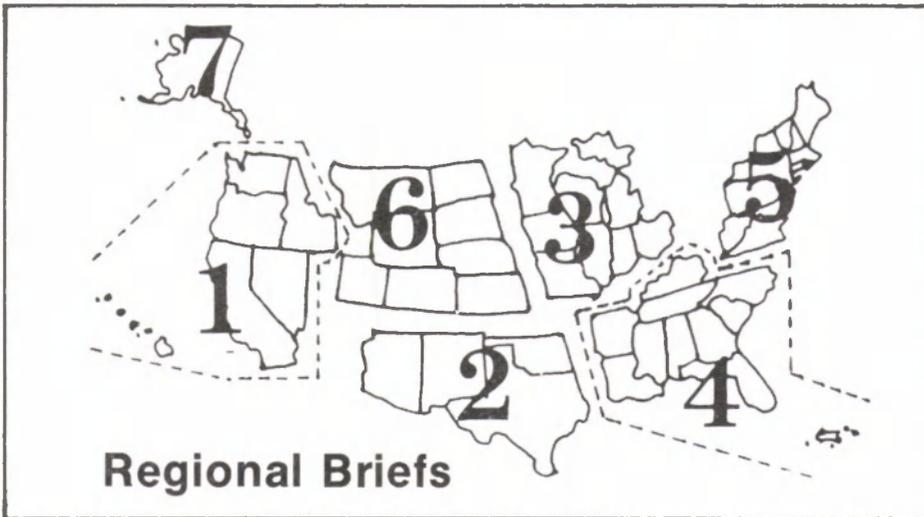
- Bahama species of *Cyclura*—The main threats to the continued survival of all these species include habitat destruction for resort development and the introduction of feral animals. Introduced mongooses, cats, and dogs prey upon the iguanas, especially the young and juveniles, and destroy nests. Introduced goats may compete for food and humans kill them for food or sport. Nearly all these iguanas have very small ranges; many are limited to a single

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Photo by George T. Baxter

Currently, no populations of the Wyoming toad are known to exist.



Regional Briefs

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

Region 2—Powerline mortality continues to be a significant drain on migratory whooping cranes (*Grus americana*), with the most recent loss occurring near Waco, Texas, in October

1982. Mortality occurs in large part when birds are flying between roosting and feeding areas. This represented the third whooping crane powerline mortality recorded since 1981. The total worldwide (captive and free-flying) whooping crane population now stands at 115, down slightly from the recorded high of 119 in 1980.

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U.S. Fish and Wildlife Regions

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

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The Buenos Aires Ranch, in south-eastern Arizona, is believed to contain the only suitable masked bobwhite (*Colinus virginianus ridgwayi*) habitat remaining in the U.S. Past Service efforts have reintroduced the Endangered masked bobwhite to the ranch and worked with the owner to improve bobwhite habitat by limiting grazing. The ranch was sold in November, and the Service is currently trying to work out a similar agreement with the new owner to limit grazing on about 5,000 acres of key bobwhite habitat. The survival of the subspecies in the wild likely depends upon how well that key habitat is protected.

Personnel involved in implementing the U.S./Mexico Agreement for the Kemp's ridley sea turtle (*Lepidochelys kempii*) met, in conjunction with the Sea Turtle Workshop, at Texas A&M University to plan activities for the next nesting season. This was the last meeting Jack Woody attended as Region 2 Staff Specialist for Endangered Species. After more than 8 years in Endangered Species, Jack has accepted a position as Deputy Assistant Regional Director (DARD) for Wildlife Resources in Region 2. Jack's knowledge and expertise in Endangered Species will be missed.

On January 27-28, a joint meeting of the Arizona, New Mexico, and Texas Plant Recovery Teams was held in Albuquerque. The meeting was attended by 25 botanists and other interested parties. After general sessions, each team met separately and discussed the species recommended for listing through completed status reports. Each team developed priorities for listing, and discussed additions and deletions to the candidate lists. Draft recovery plans for several cacti were also reviewed.

Region 3—Regional personnel will sponsor a training program on emergency care and handling of ill and injured raptors for State representatives at the University of Minnesota's School of Veterinary Medicine-Raptor Rehabilitation Center on March 3-4.

Region 5—On January 10, New York State biologists captured an adult male bald eagle (*Haliaeetus leucocephalus*) which was released in 1978 at Montezuma National Wildlife Refuge (New York) as part of the State's bald eagle restoration program. It was in the company of an unbanded adult female eagle, which was also captured. Biologists are hopeful that another pair will begin nesting in or near the State. Before the eagles were released back into the wild, each was fitted with a radio-transmitter so that their movements can be tracked.

Adding to the significance of the capture, the male bird was one that had been raised at the Service's Patuxent Wildlife Research Center (PWRC). The

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RULEMAKING ACTIONS—January 1983

Seventeen Reptiles

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island. While legal protection is afforded these iguanas in the Bahamas, the law is not enforced. All of these species are listed in the International Union for the Conservation of Nature and Natural Resources (IUCN) Red Data Book as being species of concern.

- Cuban and Cayman Islands iguanas—There are three subspecies of *Cyclura nubila* inhabiting Cuba (mainland and Isla de Pines and the Cayman Islands). The threats to these iguanas are similar to those of the Bahama *Cyclura*. *C. n. nubila* is protected in Cuba.

- Turks and Caicos iguana—This species is found on most of the islands in the Turks and Caicos group. The same threats which apply to the Bahama *Cyclura* also apparently apply to this species. No specific protection laws have been enacted and although several cays where this species occurs are supposed to be preserved, protection is nil.

- Jamaican iguana—Until recently, this species was thought extinct. However, it does survive probably in very low numbers in the Hellshire Hills, an area that is proposed to be developed. If this occurs, the remaining small population will probably become extinct.

- Round Island skink—This species is presently confined to Round Island off the coast of Mauritius. In 1974, the population was thought to be between 4,000-5,000 but declining. Factors contributing to the decline of other species on Round Island are also thought to be contributing to the decline of this species.

- Aruba Island rattlesnake—The habitat of this rattlesnake is shrinking as a result of increasing human activity. Collection may also be contributing to its decline.

- Lar Valley viper—This species is confined to the alpine Lar Valley in Iran. The planned construction of a dam for a water reservoir would eliminate its habitat.

- Central American river turtle—This large river turtle is found only in the coastal lowlands of southern Mexico, northern Guatemala, and Belize. It is hunted extensively for its meat and has been seriously depleted throughout much of its range. This exploitation could lead to its extinction.

Background

All of the newly proposed species, with the exception of the Round Island skink, were included in an August 15, 1980, notice of review that was conducted by the Service to determine whether enough information existed to list them as Endangered or Threatened. The Service received seven comments in response to the notice, most of which supported listing.

However, there were a number of comments on the Asiatic box turtle (*Cuora trifasciata*) and Chinese big-headed turtle (*Platysternon megacephalum*) which noted that these species are more widely distributed than the notice indicated and that potential threats were not demonstrated at this time. Gray's monitor lizard (*Varanus grayi*) was also included in the notice of review; data received since publication of the notice indicate that listing of this

species under U.S. law is not warranted at this time. These three reptiles were not proposed, but the Service will continue to review the status of these species. One additional species from the 1980 notice, the Hierro giant lizard (*Gallotia simonyi*) was not proposed, since it is now believed to be extinct.

The Round Island skink, not included in the 1980 notice, is proposed since the Service believes that sufficient data exist to do so. The notice treated the iguana *Cyclura nubila* as a single species; in the proposal, the subspecies are treated individually because of the different degrees of threats to them.

If these species are listed under the Act, all prohibitions of Section 9(a)(1) would apply, making it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale these species in interstate or foreign commerce. It would also be illegal to sell, deliver, carry, transport, or ship any such wildlife which was illegally taken.

Comments or suggestions from any interested party concerning this proposal should be made in writing to the Director (OES), U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240. All submissions must be received by March 21, 1983. Public hearing requests must be received by March 7, 1983.

Service Proposes Raptor Documentation

A 1978 amendment to the Endangered Species Act of 1973 exempts holders of certain birds of prey from the prohibitions of Section 9 of the Act. A recent rule published by the Service proposed documentation requirements that must be satisfied to exempt raptors under this provision (F.R. 1/12/83).

Only raptors that were held in captivity or in a controlled environment on November 10, 1978, and their progeny qualify for this exemption. The Service intends to rely on pre-existing documentation on these birds to determine a particular bird's qualification for the exemption.

The legislative history of this raptor amendment indicates that its purpose is to encourage captive production of raptors for conservation, recreation, scientific, and breeding purposes to alleviate some of the human pressures on wild raptors and increase genetic diversity in captive populations. Comments on this notice were due by February 11, 1983.

Common Name	Scientific Name	Proposed Status
Serpent Island gecko	<i>Cyrtodactylus serpensinsula</i>	Threatened
*Acklins ground iguana	<i>Cyclura rileyi nuchalis</i>	Threatened
*Allen's Cay iguana	<i>Cyclura cychlura inornata</i>	Threatened
*Andros Island ground iguana	<i>Cyclura cychlura cychlura</i>	Threatened
Cayman Brac ground iguana	<i>Cyclura nubila caymanensis</i>	Threatened
Cuban ground iguana	<i>Cyclura nubila nubila</i>	Threatened
*Exuma Island iguana	<i>Cyclura cychlura figginsi</i>	Threatened
Grand Cayman ground iguana	<i>Cyclura nubila lewisi</i>	Endangered
Jamaican iguana	<i>Cyclura collei</i>	Endangered
*Mayaguana iguana	<i>Cyclura carinata bartschi</i>	Threatened
Turks and Caicos iguana	<i>Cyclura carinata carinata</i>	Threatened
*Watling Island ground iguana	<i>Cyclura rileyi rileyi</i>	Endangered
*White Cay ground iguana	<i>Cyclura rileyi cristata</i>	Threatened
Round Island skink	<i>Leiolopisma telfairii</i>	Threatened
Central American river turtle	<i>Dermatemys mawii</i>	Endangered
Aruba Island rattlesnake	<i>Crotalus unicolor</i>	Threatened
Lar Valley viper	<i>Vipera latifii</i>	Endangered

*Bahama species of *Cyclura*

Striped Bass Status Review Results Published by NMFS

A status review of the striped bass (*Morone saxatilis*) was recently conducted by the National Marine Fisheries Service (NMFS), and its results were published in the *Federal Register* (F.R. 1/14/83). This study was conducted in response to a petition submitted by Strippers Unlimited of South Attleboro, Massachusetts, to add the Chesapeake Bay strain of the fish to the U.S. List of Endangered Wildlife and Plants.

Based principally on measures the Federal and State agencies have adopted and implemented to conserve the striped bass, NMFS has determined that a proposed rule to list the striped bass is not warranted at this time. Comments on the petition and status review should be submitted by March 15, 1983, to the Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Washington, D.C. 20235. For further information on this action, contact Mr. Richard B. Roe, Acting Director, Office of Protected Species and Habitat Conservation, Washington, D.C. 20235 (202/634-7471).

Petition

The petition states that striped bass stocks are declining at a drastic rate and that the Chesapeake Bay stocks, which often supply the bulk of the coastal migrating population, are suffering from successive years of reproductive failure. The petition used commercial landings in the Chesapeake Bay and Maryland's Department of Natural Resources annual young-of-the-year survey to document the decline in relative abundance of striped bass in the Chesapeake Bay. The NMFS recognizes that the petition addresses a serious problem to the commercial and recreational fisheries on the Atlantic coast and, more important, to the well-being of the fish, but believes that localized data, such as were presented with the petition, may not give a reliable indication of the status of the striped bass throughout its range.

The population size of striped bass along the Atlantic coast depends on recruitment and probably changes yearly. The most notable cause of this fluctuation has been the periodic appearance of a larger than average (dominant) year class. Such dominant year classes have been cyclic, with a period of about 6 years until 1970. Most researchers and fisheries managers, however, agree that there has been a reduction in the size of the population of striped bass. The extent of this decline is difficult, if not impossible, to document in terms of absolute numbers because of

the lack of reliable estimates of the population size along the Atlantic coast.

The petition also states that contaminations of eggs and larvae by toxins is the major cause of poor reproductive success of the striped bass in Chesapeake Bay. This conclusion apparently is based on observations of hatchery operations in one river system and may not be applicable to the entire Chesapeake Bay. Preliminary results of intensive tests conducted by the U.S. Fish and Wildlife Service (FWS) have not identified any substance that is significantly correlated to survival and growth of fry. These studies do suggest a trend of increasing mortality with increasing concentration of PCB's in eggs.

Conservation Measures

In October 1981, The Interstate Fisheries Management Plan for Striped Bass was adopted by all involved States. The plan recognizes that continued extensive harvest of striped bass in the Chesapeake Bay undoubtedly will have adverse effects on the spawning stock of striped bass. It recommends fishing restrictions that the Coastal States should adopt to increase survival of recruits to maturity and to prevent excessive exploitation of mature fish.

Several States have implemented many of the protective measures recommended in the Plan and other States have pending legislation to enable them to do so. In addition, Congress may provide incentives to promote full compliance with and implementation of the Plan by all involved States. The NMFS believes implementation of this plan is the best action that can be taken at this time to reduce pressure on spawning stocks and enhance the ability of the striped bass in Chesapeake Bay to recover from its decline.

The Emergency Striped Bass Study, called for by Section 7 of the Anadromous Fish Conservation Act, consists of studies to monitor the status of the striped bass population and to determine the factors responsible for the decline in numbers of these fish. Execution of these studies is the joint responsibility of NMFS and FWS.

Long-range research conducted under the Emergency Striped Bass Study has not been completed. This research will supplement studies being conducted under the State/Federal Striped Bass Program (The Interstate Fisheries Management Plan). The information from these sources will eventually enable NMFS to assess more reliably the status of striped bass and to determine the effects of various substances, environmental conditions, and

other factors on populations of striped bass.

The striped bass is distributed along the Atlantic Coast from the St. Lawrence River, Canada, to the St. John's River, Florida; in the Gulf of Mexico from western Florida to Louisiana; and introduced along the Pacific Coast from British Columbia, Canada to Esenada, Mexico. The striped bass has a number of other vernacular names, including striper, linesider, rockfish, and rock.

Striped bass grow to a large size; the heaviest specimens on record weigh about 125 pounds and the longest specimen was estimated to be about 6 feet. The species is long-lived, with a life span of 20 or more years. The species is anadromous, spawning in spring in coastal streams and in brackish waters and then returning to coastal marine waters. A major spawning site for striped bass along the Atlantic coast has been Chesapeake Bay and its tributaries.

Wyoming Toad

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be premature to determine Critical Habitat at this time. Publication of a Critical Habitat map could also subject the rare toad to further danger by unauthorized collection. Nevertheless, the Wyoming toad's habitat will receive protection under Section 7.

Public Comment Requested

Comments on the proposed rule are requested from all interested persons, agencies, and individuals, and should be received by the Regional Director, Region 6, U.S. Fish and Wildlife Service, by March 28 1983. Requests for a public hearing should be received by March 14, 1983.

CITES NEWS— January 1983

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

The Service's Wildlife Permit Office (WPO) functions as staff to the U.S. Management Authority for CITES, assuring that wildlife and plants are exported or imported in compliance with laws for their protection and issuing permits for legal trade of these species.

The Service's Office of the Scientific Authority (OSA) functions as staff to the U.S. Scientific Authority for CITES. OSA reviews applications to export and in port species protected under CITES, reviews the status of wild animals and plants impacted by trade, makes certain findings concerning housing and care of protected specimens, and advises on trade controls.

CITES Export Approvals

The Service approved exports of lynx (*Lynx canadensis*), river otter (*Lutra canadensis*), Alaskan gray wolf (*Canis lupus*), Alaskan brown bear (*Ursus arctos*) and American alligator (*Alligator mississippiensis*) taken in the 1982-83 season (F.R. 12/7/82) from the following States:

Lynx—Alaska, Idaho, Minnesota, Montana, and Washington

River otter—Alabama, Alaska, Arkansas, Connecticut, Delaware, Florida, Georgia, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Jersey, New York, North Carolina, Oregon, South Carolina, Vermont, Virginia, Washington, and Wisconsin.

Alaskan gray wolf—Alaska

Alaskan brown bear—Alaska

American alligator—Florida and Louisiana

Final findings are made annually on a State-by-State basis for Appendix II species that are exported. Approval is given on the grounds the both Scientific Authority and Management Authority criteria have been met.

Sea Turtle Import Ban Under Review

Federal regulations on Threatened sea turtles are being reviewed by the Fish and Wildlife Service and the National Marine Fisheries Service, which share jurisdiction over certain marine species (F.R. 1/3/83). Particular emphasis is on the question of whether or not to lift the current prohibitions on U.S. trade in products of Threatened sea turtles. This review is in response to requests from several organizations to reconsider the import ban, and in anticipation of an upcoming meeting in Botswana of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that will consider if trade in certain populations of sea turtles should be allowed.

The loggerhead (*Caretta caretta*) and certain populations of green (*Chelonia mydas*) and olive ridley (*Lepidochelys olivacea*) turtles are listed as Threatened pursuant to the Endangered Species

Act. Under special rules, trade in the Threatened sea turtles for commercial purposes is prohibited. While formulating the rules, both Services considered whether or not to allow an exception for sea turtle mariculture operations but decided against it. A decision was made against an exception, and it was subsequently upheld in the courts. All of the Threatened sea turtles are also listed on Appendix I of CITES. As a general rule, Appendix I species cannot be imported or exported for commercial purposes.

The Services have decided to review their rules prohibiting trade in the Threatened sea turtles for the following reasons:

(1) The nations of Surinam and Reunion have submitted proposals to CITES to allow "ranching" (rearing in a controlled environment specimens taken from the wild) of green turtles. These proposals will be taken up at the April 1983 CITES conference in Botswana. If the parties move these populations to Appendix II, commercial trade could resume under permit from the exporting country.

(2) Individuals of Appendix I species that are "bred in captivity" for commercial purposes are deemed to be included in Appendix II, in accordance with Article VII.4 of CITES. This provision was the subject of a resolution by the Parties to CITES in 1979. Questions have been raised by the Govern-

ment of the Cayman Islands and the United Kingdom Management Authority about the application of this resolution to certain Appendix I species, including the green turtle. It has been proposed that this issue be discussed by the CITES Technical Experts Committee and addressed at the Botswana conference.

(3) On January 22, 1982, the Pacific Legal Foundation and the Association for Rational Environmental Alternatives filed a petition for a mariculture exemption to the rules prohibiting trade in Threatened green turtles.

(4) The Cayman Turtle Farm (CTF), Ltd., has requested that tourists be allowed to bring into the U.S. items from farm-produced turtles, to allow farmed products to be shipped through the U.S., and to permit importation of farmed products in the U.S. for commercial purposes. The Cayman Islands government has given assurances that it would prevent CTF from taking any additional turtles or eggs from the wild, and would impose a numbering and documentation system on traded items.

The original deadline for comments on the proposal was February 2, 1983, but it was extended to February 17, 1983, in a subsequent notice (F.R. 2/4/83).

Import/Export License Requirement Clarified

The requirement that persons be licensed by the Service in order to engage in business as an importer or exporter of fish or wildlife and their parts or products has been in effect since August 25, 1980. A recent final rule clarifies two questions that have since been raised regarding the implementation of this requirement (F.R. 1/12/83).

The two questions were: What records need to be kept in order to satisfy the licensing requirement? and May a non-resident (especially foreign fur buyers) obtain a license? The rule states that normal business records should satisfy the record-keeping requirement and that a separate (or duplicate) set for the Service is not required. Secondly, it states that residence in the United States is not required to obtain a license.

Under the license requirements which went into effect on January 1, 1981, licensees must: (1) Pay \$50 for a 2-year license; (2) keep certain records and retain them for 5 years; (3) allow the Service to inspect records and inventories of imported wildlife; and (4) file any requested reports. In addition to being licensed, persons who import or export

species protected by specific laws also must obtain the appropriate Federal and State permits. The licensing system does not replace the permit requirements of 50 CFR Part 17 or of any other law or regulation.

In effect, the licensing provision represents an overall comprehensive program which monitors, exclusively, the commercial import and export of wildlife and wildlife products. To relieve the burdensome demands that the provision would impose on small entities, particularly small businesses and individuals who only occasionally import or export wildlife for gain or profit, the Service amended the rule on December 31, 1980, to except persons if the value of the wildlife they import or export totals less than \$25,000 a calendar year.

Non-residents should submit inquiries about the license, requests for application forms, or completed applications to the Chief, Division of Law Enforcement, U.S. Fish and Wildlife Service, P.O. Box 28006, Washington, D.C. 20005 (202/343-9242). For further information on the final rule, contact John T. Webb at the above address.

Recovery Plans for Laysan Duck, Sonoran Pronghorn Approved

Three recovery plans were approved in December 1982: Eureka Valley Dunes Recovery Plan (12/13/82), which will be featured in the March 1983 BULLETIN; Laysan Duck Recovery Plan (12/17/82); and Sonoran Pronghorn Recovery Plan (12/30/82). The Culebra Island Giant Anole Recovery Plan, which was approved on January 28, 1983, will be featured in a later issue of the BULLETIN.

Laysan Duck

The Laysan duck (*Anas laysanensis*) is a small, dark brown duck endemic to Laysan Island in the northwestern or leeward Hawaiian Islands. Severe habitat damage suffered in the early 1900's almost resulted in this duck's extinction, and in 1967 it was officially listed as Endangered. At times, it has been considered one of the rarest ducks in the world.

Laysan is a 1,020-acre island about 709 miles northwest of Kaua'i, and is now part of the Hawaiian Islands National Wildlife Refuge. In 1890, prior to establishment of the refuge, Laysan was leased to a private company for guano mining. Later, in 1903 or 1904, rabbits were introduced on the island, at least in part to provide a more varied diet for the workers. After the departure of the miners in 1910, the rabbits were no longer held in check and their numbers exploded, resulting in the rapid devegetation of the island. The ensuing sandstorms, together with a lack of food, led to the extinction of the Laysan millerbird (*Acrocephalus familiaris*), rail (*Porzana palmeri*), and honeycreeper (*Himatione sanguinea freethi*). The habitat



The Laysan duck has, at times, been considered one of the rarest ducks of the world.

degradation also brought the Laysan finch (*Telespyza cantans*) and duck to the brink of extinction.

After the severity of the impact was recognized, a campaign to eradicate the exotic rabbits was started. They were finally eliminated during the expedition of the U.S.S. Tananger (a U.S. Navy minesweeper) in 1923. The island then revegetated both naturally and through plants introduced by the Tananger expedition. Current habitat conditions are thought to approximate the situation prior to introduction of the rabbits, except for the elimination of several birds and plant species and the establishment of a few exotic plants. Estimates of the Laysan duck population on the island have fluctuated significantly over the years, from 20 in 1923 to about 510 in July 1980, although different survey techniques could account for a large part of the variation. As recently as 1973, only 25 ducks were counted at the island's central, salt-water lagoon; 162 were seen the previous year. The recovery plan does emphasize that the population is cyclic and lows will occur. It is thought that the carrying capacity of Laysan Island may be 500-600 ducks.

The prime objectives of the recovery plan are to insure the protection of the Laysan duck's natural island habitat and to improve the status of the species from Endangered to Threatened. Because of the limited habitat of Laysan Island and its vulnerability, the duck probably will always be considered a Threatened species. Its continued existence will depend on two factors: continued complete protection of Laysan Island and a viable captive propagation program.

Laysan Island is managed as part of the Hawaiian Islands National Wildlife Refuge. It is also a designated Research Natural Area under the International Biological Program, and is being considered for inclusion in the National Wilderness Preservation System. Only scientists on Service-approved research projects are permitted onto the island; all other entry is strictly prohibited. Unfortunately, the possibility still exists that exotic and potentially harmful animals could be introduced on the island, either purposely or through an accident such as a ship running aground. The plan therefore calls for monitoring the island to detect any introductions, along with development of a contingency plan to solve any resulting problems. Annual censusing of the duck population should continue, and inventories of the island habitat and vegetative community should be conducted at 5-year intervals.

One habitat feature of particular impor-

tance at Laysan is the lagoon, which is a breeding area for the brine flies and other insects which appear to be the main food source for the Laysan duck. Since the lagoon basin is extremely flat, slight fluctuations in the water level cause great differences in the surface area, and the habitat's carrying capacity could be significantly affected. The lowest water level recorded (July 1973) corresponds with the low population that year of only 25 ducks. It is important, therefore, that lagoon water levels be recorded in a regular and systematic fashion.

Another important part of the plan is a coordinated captive propagation effort to maintain healthy stock for reintroduction on Laysan if the wild population becomes extinct. There are many zoos and breeding farms which have Laysan ducks in captivity, and propagation has been highly successful. The plan calls for a minimum of four breeding farms with at least 20 birds each. A bird exchange program among the facilities is encouraged to prevent inbreeding and to maintain their genetic health.

Details on the plan and its implementation can be obtained from the Portland Regional Director (see page 2 for address).

Sonoran Pronghorn

The Sonoran pronghorn (*Antilocapra americana sonoriensis*) is one of the few large mammals recognized as being endangered in the United States today. The drying of the major rivers and overgrazing significantly altered Sonoran pronghorn habitat in southwestern Arizona by the 1930's and are the probable causes of the subspecies' decline.

Unregulated hunting undoubtedly contributed to the animal's initial decline. However, with the protection that has been provided for the past 40 years, the pronghorn should have recovered if hunting was indeed a primary factor.

Adequate records exist that indicate pronghorn antelope were distributed throughout southern Arizona prior to 1900. However, the historic distribution of the Sonoran subspecies is not certain. It is presently found in Arizona on the Cabeza Prieta National Wildlife Refuge, Organ Pipe National Monument, and the Luke Air Force Gunnery Range. It may also occur on portions of Papago Indian Reservation. In Mexico, the subspecies is believed to be confined to the northwestern part of the State of Sonora.

Data compiled by the Arizona Game and Fish Department over the past 10 years indicate a pronghorn population in Arizona of more than 50 but probably

less than 150 individuals. The population in Mexico is believed to number between 200-350. Economic exploitation of habitat (grazing and agriculture) and poaching are thought still to be causing numerical and habitat losses in Mexico.

The taxonomy of the subspecies is poorly understood as little taxonomic material is available. Biological data concerning even basic natural history information such as reproductive capabilities, water requirements, food habits, and home range are not known.

Recovery Plan

The objective of the Sonoran Pronghorn Recovery Plan is to maintain existing population numbers and distribution of the animal while developing techniques to increase both. The plan establishes as a goal the maintenance of an average of 300 animals for a 5-year period before delisting of the subspecies could be considered.

A major problem facing the recovery of the Sonoran pronghorn is that the recovery methods employed in Mexico may have to be quite different from those used in Arizona. In the U.S., most of the habitat where the pronghorn is found is reasonably secure, controlled either by the National Park Service, the Fish and Wildlife Service, or the Department of Defense. However, in Mexico the habitat occupied by the pronghorn is rapidly deteriorating and a second comprehensive plan may have to be developed and implemented by Mexico if the subspecies is ever to completely recover.

A second problem is that present knowledge indicates no clear means to increase either population densities or range. While range extension through habitat management and/or transplanting may offer potential as a means of increasing the population, no data exist describing suitable transplant sites, capture methods, or the number of animals that could be removed safely from the existing population.

The plan calls for continuous compilation of data on the existing U.S. population and for taxonomic research. It also provides for assistance to the Mexican government in establishing and implementing a management plan for the pronghorn population in Mexico.

Two employees of the Albuquerque Regional Office recently met with representatives of the Arizona Game and Fish Department and Luke Air Force Base to initiate a study on Sonoran pronghorn ecology. The study plans include capturing and radio-collaring six to eight animals this spring on Cabeza Prieta National Wildlife Refuge.

For further information on the Sonoran Pronghorn Recovery Plan, contact the Albuquerque Regional Director (see page 2 for address).

Proposed Finding on Incidental Take of San Bruno Mountain Species

A joint Federal Environmental Assessment and California Environmental Impact Report (EA/EIR) has been prepared for the proposed incidental take of the mission blue butterfly (*Icaricia icaroides missionensis*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) under a conservation plan pursuant to Section 10(a) of the Endangered Species Act. On the basis of the EA/EIR and related documents, the Service has proposed to determine that the possible incidental take of these Endangered animals would not constitute a major Federal action significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act, and that a separate Federal Environmental Impact Statement will not be prepared (F.R. 1/26/83).

The Service is considering a permit application from several local governments for incidental take of the Endangered species during a development project within the San Bruno Mountain area of San Mateo County, California. Such a permit would be conditional on implementation of the San Bruno Mountain Area Habitat Conservation Plan through an agreement among concerned Federal, State, and local parties.

Conservation Agreements to Aid Some Candidates for Listing

The Service recently further defined and formalized its policy on the use of Conservation Agreements (CAs), a tool authorized under Section 5(a) of the Endangered Species Act to help conserve vulnerable but non-listed plants and animals native to the United States. Among the contents of each CA will be a description of necessary actions, an identification of the party responsible for accomplishing each action, an implementation schedule, and a plan for monitoring and evaluating the results. CAs are not legal contracts, but agreements entered into by the Service and one or more Federal or State agencies, public or private organizations, institutions, or individuals for conservation through voluntary cooperation. It thus provides an incentive for voluntary action to meet the conservation standards of the Act.

Although CAs could be reached for listed species as part of a recovery program, they are expected to be used primarily for candidates for listing. The

policy is expected to be applicable to a relatively small number of species which could benefit from quick, uncomplicated, and noncontroversial action. CAs will be used only for species where all threats to every population can be removed completely and expeditiously for as long as the agreement remains in effect. If only some threats to the species would be removed, or only some sites completely protected, or specific conservation provisions of the Act are needed, then listing is still necessary and the CA approach inapplicable. A CA may be considered as an alternative to listing, as an interim measure in setting priorities among the many candidates needing listing, but it will not foreclose the possibility of future listing; a signed CA will not remove a species from official candidate status unless permanent recovery is achieved.

In accordance with the policy directive, individual CAs will be summarized in the BULLETIN as they are reached.

1983 Appropriations

The Department of the Interior's appropriations bill was signed into law by President Reagan on December 30, 1982. The budget for the Endangered Species Program totals over \$20 million; Congressional add-ons included in this total will provide \$2 million for Section 6 State grants, \$216,000 for peregrine falcon recovery, \$100,000 each for California condor and whooping crane telemetry, and \$987,000 for law enforcement. Included elsewhere within the Service's 1983 appropriations was an additional \$150,000 for implementation of the Western Hemisphere Convention.

Funding from the Land and Water Conservation Fund was appropriated to purchase habitat which will benefit the following listed species:

American crocodile	Crocodile Lake NWR	\$2,766,000
Bald eagle	Bear Valley NWR	812,000
Kirtland's warbler	Ogemaw State Forest, MI	500,000
West Indian manatee	Chassahowitzka NWR	500,000
Plymouth red-bellied turtle	Massasoit NWR	275,000

Regional Briefs

Continued from page 2

capture was the first proven instance of captive-raised eagles from PWRC surviving to adulthood, although researchers have felt all along that they would do well. Regional and State biologists are jubilant about the discovery.

Region 6—The Black-footed Ferret Advisory Team (BFAT) met in Meeteetse, Wyoming, on December 14. Discussions centered on future research and management in the Meeteetse area. In addition, a management plan is being prepared for the Meeteetse population. Biologists are again conducting winter surveys under appropriate snow and weather conditions.

Whooping crane migrations continue to be monitored each spring and fall as part of the Cooperative Whooping Crane Tracking Project. The Service's Pierre, South Dakota, field office gathers sighting reports from both private individuals and organizations as well as State and Federal agencies. Since 1977, 37 birds have been color-marked in connection with the project. In 1982, two family groups with radioed young were successfully monitored all the way to Aransas National Wildlife Refuge, Texas. Both families left the nesting grounds on or about October 8, moving to central Saskatchewan, where they remained until October 28. Both then traveled quickly through the States, arriving at Aransas on November 3 and 4. Recorded observations of migrant whoopers began on September 15 in Canada and September 19 in the U.S. Observations were reported from Alberta (2), Saskatchewan (37), North Dakota (8), South Dakota (10), Nebraska (9), Kansas (3), Oklahoma (5), and Texas (4). Arrivals at Aransas National Wildlife Refuge began October 18.

BOX SCORE OF LISTINGS/RECOVERY PLANS

Category	ENDANGERED			THREATENED			SPECIES* TOTAL	SPECIES HAVING PLANS
	U.S. Only	U.S. & Foreign	Foreign Only	U.S. Only	U.S. & Foreign	Foreign Only		
Mammals	15	18	223	3	0	22	281	17
Birds	52	14	144	3	0	0	213	25
Reptiles	8	6	55	8	4	0	81	6
Amphibians	5	0	8	3	0	0	16	2
Fishes	29	4	11	12	0	0	56	20
Snails	3	0	1	5	0	0	9	1
Clams	23	0	2	0	0	0	25	0
Crustaceans	2	0	0	1	0	0	3	1
Insects	7	0	0	4	2	0	13	3
Plants	55	2	0	9	1	2	69	6
TOTAL	199	44	444	48	7	24	766	81**

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

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

Number of species currently proposed: 23 animals
6 plants

Number of Critical Habitats listed: 55

Number of Recovery Teams appointed: 69

Number of Recovery Plans approved: 75

Number of Cooperative Agreements signed with States:

38 fish & wildlife

11 plants

January 31, 1983

New Publications

A 16-page illustrated booklet entitled *Patuxent Wildlife Research Center* is available from the Publications Unit, Fish and Wildlife Service, Washington, D.C. 20240. The Service's research facility near Laurel, Maryland, conducts programs on endangered species, environmental contaminant evaluation, and migratory birds. Among the listed species receiving special attention at the center and its field stations are the whooping crane, bald eagle, Puerto Rican parrot, Andean condor, Mississippi sandhill crane, masked bobwhite, and Aleutian Canada goose.

The 1980 U.S. Annual Report for the Convention on International Trade in Endangered Species of Wild Fauna and

Flora (CITES) is now available. Copies may be purchased in printed form (\$22.00) or in microfiche form (\$4.50) from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 (703/487-4650). Written requests for report number PB83 143198 should be made to the attention of the Sales Desk. Purchase requests may be made by telephone if the purchaser has an account with NTIS or if the purchaser has a major credit card. The report, produced in accordance with CITES by the Federal Wildlife Permit Office (WPO), summarizes U.S. international trade in CITES listed species. The 1979 annual report also is available from NTIS (report number PB82 128646; \$18 printed copy or \$4 microfiche).

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