



ENDANGERED SPECIES TECHNICAL BULLETIN

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

Two Offshore Oil Leases Cleared— With ES Safeguards

Biological opinions have been issued by the Service stating that proposed sales of two outer continental shelf (OCS) oil leases by the Bureau of Land Management (BLM) are "not likely" to jeopardize 14 Endangered or Threatened species—on the basis of available information.

The opinions, requested by the BLM under the recently promulgated section 7 regulations of the Endangered Species Act of 1973, were the first prepared by the Service in connection with offshore oil development.

But the Service observed that the situation with regard to jeopardy could change during subsequent exploration and development phases of the projects, requiring additional consultations on the part of affected Federal agencies. One of the proposed leases (OCS Sale No. 43) is in the Atlantic off the Florida coast and the other (OCS Sale No. 45) is in the Gulf of Mexico.

Future Threats

As an example of an activity that might cause a problem—and require future consultation—the Service cited increased boating by crews and service vessels shuttling back and forth from the mainland to oil rigs at sea.

"Should this type of activity occur in the Jacksonville (Florida) harbor or the mouth of the St. John's River, which comprise part of the Critical Habitat of the Endangered Florida manatee, it may jeopardize the continued existence of that species or result in the destruction or modification of its Critical Habitat. Another example would be the location of onshore facilities sufficiently close to the Critical Habitat of the dusky seaside sparrow in Brevard

(continued on page 3)



Photo by G. Ronald Austing

Bald Eagle's Status Listed For 48 States

The Service has issued a final rulemaking, effective March 16, that determines the bald eagle (*Haliaeetus leucocephalus*) to be Threatened in five States (Michigan, Minnesota, Oregon, Washington, and Wisconsin) and to be Endangered in the remaining 43 conterminous States (F.R. 2/14/78).

The effect of this ruling is to extend the protective provisions of the Endangered Species Act of 1973 to all bald eagles throughout the Lower 48 States. Hawaii is excluded because the species does not occur there. Alaska, which has about ten times as many breeding bald eagle pairs as all the other states combined, also is not covered by the rulemaking.

Background

The southern bald eagle (*Haliaeetus leucocephalus leucocephalus*) was listed as Endangered in 1967. The northern bald eagle (*Haliaeetus leucocephalus alascanus*) was not listed,

primarily because the relatively large Alaskan population was not known to be in danger. Furthermore, at that time, it was not possible legally to list a population segment; nor was there yet a Threatened category. The 40th parallel was arbitrarily selected, principally for administrative convenience, as the dividing line between the southern and northern subspecies.

By 1976, the Service had determined that the dividing line was causing confusion because the southern and northern populations moved back and forth across the line during nonbreeding periods and that there was no geographical or morphological basis for subspecies classification. In addition, the Service determined that Federal protection under the 1973 act should be extended to the bald eagle population in the northern parts of the 48 conterminous states. Accordingly, the Service issued a proposed rulemaking

(continued on page 9)

Regional Briefs

Regional Endangered Species Program staffers report the following summary of activities in their areas:

Region 2. A \$2,100 contract has been awarded the Houston Zoo to artificially propagate the Houston toad (*Bufo houstonensis*). This spring, the zoo plans to collect 6 to 10 adult toads and, using reproduction techniques well established for the genus *Bufo*, try to produce several thousand young for release next spring back into the areas where the adults were found. Some of the young toads also may be placed on Federally controlled lands, such as Ellington Air Force Base, and around Addicks Reservoir in Harris County, which are part of the species' historical range.

Thirteen humpback chubs (*Gila cypha*) were collected in late January from the Colorado River in the Grand Canyon, airlifted to the south rim of the canyon by helicopter, and driven to the Willow Beach National Fish Hatchery in Arizona for captive propagation. At present, pure populations of this En-

dangered species are known in only three locations. The Service plans to release the hatchery-reared chubs into parts of their historical range. The Colorado squawfish (*Ptychocheilus lucius*) and razorback sucker (*Xyrauchen texanus*) also are being propagated at Willow Beach for reintroduction into their former waters.

Region 3. A habitat survey for the Kirtland's warbler (*Dendroica kirtlandii*) in Wisconsin started in February under a joint venture by the fish and wildlife departments of Wisconsin and Michigan. In Michigan, the warbler is found in habitat having sandy soil, stands of jack pine 10-20 years old, and an understory of blueberry plants. Similar habitat will be searched out in Wisconsin and tapes of the male bird calls will be played to attract any warblers present. The project is assisted by Federal grant-in-aid funding from the Service.

Region 5. Contracts are being negotiated with members of the Endangered Species Committee of the New England Botanical Club to prepare reports on endangered and threatened plants in each of the six New England States.

Garland Ross and Ray Haulsee have been named recipients of the Service's Citizen Award in recognition of their efforts to protect the Virginia round leaf birch (*Betula uber*) by erecting fences around the recently rediscovered trees.

Region 6. A draft of the recovery plan for the Northern Rocky Mountain wolf (*Canis lupus irrenotus*) is under review. Comments are due by the end of March.

The regional office has compiled a list of candidate threatened and endangered plant species and the refuges on which they may occur. The compilation will be distributed to refuge personnel to serve as a "watch list" until the status of these species is officially determined.

Alaska Area. A raptor workshop concentrating on protection of the arctic peregrine falcon (*Falco peregrinus tundrius*) was conducted in Fairbanks on February 6-7 by special agents of the Service's Division of Law Enforcement. More than 60 persons attended, including representatives of agencies in Canada, which also are experiencing increasing enforcement problems in protecting falcons.

Samples have been collected from all 174 of the Aleutian Canada goose (*Branta canadensis leucopareia*) propagation stock on Amchitka Island for analysis of avian diseases. The work was performed by Forrest Lee of the Northern Prairie Wildlife Research Laboratory and the Aleutian Island National Wildlife Refuge staff.

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Symposium Planned On Virginia's Wildlife

A symposium on the endangered and threatened flora and fauna of Virginia will be held on the campus of the Virginia Polytechnic Institute and State University, at Blacksburg, Virginia, on May 19-20.

Sponsored by the university's Center for Environmental Studies, the symposium is intended to help create a list of Virginia plants and animals deemed endangered, threatened or otherwise of concern. The biological data assembled will form the basis of a comprehensive publication, which will also include suggestions for research, education, and management.

Further information on the symposium may be obtained from Don Linzey, Center for Environmental Studies, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

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Masked Bobwhite Recovery Plan Approved

A recovery plan calling for the maintenance of self-sustaining populations of the Endangered masked bobwhite quail (*Colinus virginianus ridgwayi*) in the Southwest has been approved by the Service.

Under the plan proposed by the recovery team, headed by David E. Brown of the Arizona Fish and Game Department, two efforts would be undertaken simultaneously:

1. Reestablishment of a self-sustaining population in Arizona, where the bird was essentially extirpated about 80 years ago as a result of habitat destruction caused primarily by excessive livestock grazing.

2. Maintenance of a viable population in the neighboring Mexican state of Sonora, where the quail has managed to survive in the wild, albeit in dwindling numbers.

Reestablishment in Arizona

The recovery plan proposes a two-phase approach in Arizona. The first phase would consist of acquiring (through cooperative agreement, lease, or purchase) an area or areas suitable for a management reserve, where birds can be released and studied in a protected environment.

Covering at least 3,000-5,000 acres, the reserve would be located within the historical range of the quail. Fencing, livestock control, scrub eradication, revegetation, and other measures would be taken to provide a habitat conducive to the masked bobwhite but not to competing birds.

Conditioned, propagated masked bobwhite stock would be released within the reserve in the hope of creating an established wild population. Stock for release will come from the Patuxent Wildlife Research Center, in Maryland, where masked bobwhite have been reared in pens since the late 1960's (see November 1977 BULLETIN), and then shipped to a field station in the Altar Valley for conditioning before their release to the wild.

Subsequently, the status of the reserve's masked bobwhites would be determined by call counts, brood surveys, and other techniques. If and when the status reaches that of an established, self-sustaining population, the second phase would be implemented.

The second phase consists of setting up a permanent refuge, acquired through purchase, for the subspecies.

Maintenance in Mexico

As outlined in the recovery plan, the Service would continue to cooperate

with Mexico in monitoring the status and distribution of masked bobwhites, as well as their habitat conditions and population trends. The Service has been working with Mexican representatives and appropriate private concerns in an effort to insure the continued survival of the species in Mexico.

Program Costs

Through fiscal year 1978, the recovery team estimates total expenditures on the bird's recovery effort at \$384,500. This includes \$280,000 for reestablishing the Arizona population and the remainder for maintaining the Mexican population.

Background

When first collected in 1884, the masked bobwhite quail was known to occur in small, scattered areas of extreme south-central Arizona and in more extensive areas of Sonora. Thereafter, however, excessive livestock grazing and extended drought conditions rapidly destroyed the bird's natural grassland habitat. By 1900, the subspecies was essentially extirpated in Arizona; by 1950, it appeared to have suffered the same fate in Sonora.

Although the quail was rediscovered in Sonora in 1964, subsequent surveys indicated that the Mexican populations were limited to two areas and they were—and are—probably declining in numbers owing to continued overgrazing, drought, and scrub invasion of the denuded grasslands.

Between 1937 and 1950, several attempts were made to reestablish the quail in Arizona, but they all failed—principally, in the view of the present recovery team, because most of the releases were made well outside the bird's historical range. Sporadic attempts were made again after the 1964 Sonoran rediscovery, but these also proved unsuccessful.

In 1966, two Arizonans donated four pairs of pen-reared masked bobwhites to the Bureau of Sport Fisheries and Wildlife. Together with 57 wild birds captured in Sonora in 1968 and 1970, these became the original breeding stock for the Patuxent Wildlife Research Center.

Prior to 1974, the Patuxent-reared bobwhites were released to the wild with little or no conditioning, and most of them dispersed and/or disappeared within two months of release. A few birds did live as long as one year, and there was also one documented case of reproduction in the wild.

Beginning in 1974, the Patuxent researchers developed a screening and conditioning program for the masked bobwhite. Their techniques included modifications of the call-box or call-pen conditioning methods and also modified adoption methods. The most promising of the latter has involved imprinting masked bobwhite chicks on sterilized Texas bobwhite (*C.v. texanum*) foster parents. Under this new program, only those birds judged capable of surviving in the wild are released.

As of October 1977, a few coveys had become established in the wild in Arizona. However, as reported by the recovery team, it is uncertain whether or not these coveys will survive and reproduce in a feral state.

Conclusions

The recovery plan incorporates certain activities, such as the implementation of appropriate land management practices in Arizona and status determination in Sonora, that are already initiated and ongoing. Also, farsighted livestock operators and other land owners have been instrumental in helping the team carry out recovery efforts for the species. Consequently, the Service believes that, with continued cooperation, it may soon be successful in its attempts to save the masked bobwhite.

However, as the recovery team noted, "the bird's absence from historical range in the United States poses one of the most intriguing wildlife management challenges yet encountered. No protective measures will suffice. The restoration of a bird to a now altered ecological niche is called for; a goal perhaps readily feasible, perhaps impossible."

Oil (continued from page 1)

County, Florida, to adversely impact that species," the Service noted in a memorandum to the United States Geological Survey (USGS). The USGS is the Federal agency responsible for overseeing offshore oil exploration and development at leased sites.

The Endangered and Threatened species reviewed by the Service for potential adverse effects, in addition to the manatee and dusky seaside sparrow, were as follows:

Bachman's warbler, American alligator, brown pelican, bald eagle, arctic peregrine falcon, the leatherback, hawksbill, and Atlantic ridley sea turtles, red wolf, whooping crane, Attwater's prairie chicken, and Mississippi sandhill crane.

The reviews were performed by a team of Endangered Species Program biologists and administrative staff.

New Projects, Agreements Boosting Endangered Species Protection Are Taking Hold in Foreign Lands

Many divisions and offices of the U.S. Fish and Wildlife Service perform endangered and threatened species functions under the Endangered Species Program. The following article discusses the important services provided by the International Affairs (IA) office staff in support of the program.

Ron Sauey of the International Crane Foundation (ICF) is flying to Moscow in June to pick up a dozen eggs of the Endangered Siberian white crane (*Grus leucogeranus*). He will carry the eggs—which will have been collected a few hours before near Yakutia, Siberia, by Soviet biologists—to the University of Wisconsin for artificial incubation.

The 20,000-mile roundtrip journey, arranged by the U.S. Fish and Wildlife Service under an environmental cooperative agreement between the United States and the Soviet Union, will launch a captive breeding program aimed at establishing a new flock of the cranes that would migrate between Siberia and Iran. Only an estimated 350 of the birds presently remain in the wild.

Also this spring, the Service—jointly with the National Park Service (NPS)—anticipates the initiation of about 40 projects in India and Pakistan to assist in the protection and management of such Endangered species as the Asian elephant (*Elephas maximus*), the great Indian rhinoceros (*Rhinoceros unicornis*), Asiatic lion (*Panthera leopersica*), black buck (*Antelope cervicapra*), and a number of birds, crocodiles, and marine turtles.

During the year, Service representatives will participate in workshops sponsored by the Organization of American States (OAS) in an effort to lay the groundwork for implementing the Convention on Nature Conservation and Wildlife Preservation in the Western Hemisphere—a goal set by President Carter in his environmental message to Congress last May 23. The Convention would establish wilderness parks and reserves, and give needed protection to endangered species and migratory birds in all the Americas.

These and many more activities supporting the protection of endangered wildlife in other nations around the world are part of the Service's long-standing involvement in international programs for wildlife conservation. That involvement dates back to 1916



Photo by Gerard A. Bertrand

Only a very limited number of the Endangered Asiatic lion remain in the Gir Forest at Gujarat, India

with the adoption of a treaty by the United States and Great Britain (acting for Canada) to protect certain species of game birds that migrate between the U.S. and Canada. This agreement led to passage of the Migratory Bird Treaty Act of 1918, in which Congress provided for the first Federal game bird refuges. Treaties covering Endangered and Threatened species of migratory wildlife, as well as birds, also have been executed with Mexico (1936) and Japan (1972). Ratification of a fourth migratory bird treaty, with the Soviet Union (signed in November, 1976), is pending.

International Affairs Office

Foreign wildlife conservation activities are coordinated by the Service's International Affairs office, which has a staff of nine persons and a budget of \$351,000 for FY 1978 (an increase of \$93,000 over FY 1977).

Dr. Gerard A. Bertrand, a zoologist, marine ecologist, and lawyer, was recently appointed chief of the office, having served at the Council on Environmental Quality as science advisor to Presidents Nixon, Ford, and Carter prior to joining the Service.

Bertrand, 34, believes the Service enjoys "remarkable opportunities to help advance the cause" of wildlife protection around the globe by virtue of the Endangered Species Act, and other laws and treaties, including U.S. participation in the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

By the same token, he notes the leaders of developing nations, which still retain reasonably high populations of wildlife, realize in many instances

"they have a bountiful resource, one which we are now trying to regain," and want to keep it.

Excess Foreign Currencies

In passing the Endangered Species Act of 1973, Congress expanded the Service's international role by authorizing assistance to the programs of foreign nations which the Secretary of the Interior determines to be "necessary or useful" to the conservation of any species listed as Endangered or Threatened. Moreover, Congress, in section 8 of the act, authorized the use of U.S.-owned foreign currencies, whenever available, to fund these assistance programs.

U.S. holdings of foreign currencies or credits accumulate in some countries through the sale of surplus agricultural commodities under the Agricultural Trade Development and Assistance Act of 1954 (Public Law 83-480) and by the repayment of loans. These monies are used to fund U.S. foreign aid programs, which must be carried out in the host countries.

A portion of the funds may be declared as excess by the U.S. Treasury whenever the amount held is sufficient to meet all U.S. Government requirements for two years. These "excesses" may then be applied to optional assistance programs, such as those developed for endangered species protection. Countries currently declared as having excess foreign currencies include Egypt, Pakistan, India, Burma, and Guinea.

Approved Programs

The Service initially proposed programs devoted to the preservation of

International Activities

endangered species and their ecosystems for Egypt, Pakistan, and India for FY 1976. Congressional approval was obtained for expenditure by the Service of \$600,000 in excess currencies for the three countries in FY 1977. In FY 1978, Congressional authorizations have increased those funds to a total of \$413,000 for Egypt, \$225,000 for Pakistan, and \$446,200 for India.

The Endangered Species Program has long practiced the philosophy that anything foreign countries can do to educate the public and protect habitat is serving the needs of endangered and threatened species. Thus, the approach has been to allow the various countries to set up their own priorities and programs for funding with excess foreign currencies.

The Service acts in the role of advisor, monitoring the progress of projects, and assisting in project modification when necessary.

Contracts with Egypt

A joint Service/NPS team made the first attempt at implementing the excess currency program during a visit to Egypt in April 1977. At present, Egypt has some wildlife protection laws, but they are not adequately enforced. Unlike India and Pakistan, which have some natural areas set aside for wildlife, Egypt has no parks, refuges or preserves, and has no one agency responsible for wildlife management and nature protection. Nonetheless, an increasing awareness of the need for ecological and conservation programs is occurring among Egyptian government officials.

For example, endangered species conservation—and the wisdom of preserving genetic strains of plants and animals as a hedge against future crop disasters—has become a television discussion topic in the country during recent months.

As a result of the FWS/NPS team visit last year, three contracts amounting to about \$200,000 have been signed with the director of Cairo's Giza Zoo. One of the contracts enables Egypt to organize an international workshop where scientists from around the world can bring their expertise to bear on solving its conservation problems. The meeting will be held in the fall in Cairo and, it is hoped, will prove a "shot in the arm" to developing a national wildlife protection program.

A second project entails the preparation of public awareness plans to be presented at three different funding levels, one of which will be implemented later according to the amount of excess foreign currencies available.

A third project will fund surveys and the gathering of data for listing additional species, developing wildlife management plans, and proposing areas to be set aside as parks or protected regions.

Part of the latter project called for a visit by the principal investigators to the United States. Dr. Hassan Hafez, director of the Cairo zoo, and Dr. A. Maher Ali, professor of plant protection at Assuit University, presently are touring parks and refuges in the southwest U.S., learning about our facilities, technical expertise, and management approaches to desert ecosystems believed to be similar to those in Egypt. This familiarization is planned to assist the Egyptians in developing a comprehensive endangered species conservation plan for their country.

India and Pakistan

The Service and NPS sent study teams to India and Pakistan in January and February 1978, respectively, to initiate programs in these two countries. Bertrand, who led the combined mission to India, is scheduled to return to India late in May to negotiate contracts. As many as ten priority projects involving an estimated \$400,000 in excess foreign funds could be set up.

One of the proposed projects will establish a visiting lecturer position at India's Institute of Forestry to offer instruction in the basics of wildlife management, and particularly the conservation of endangered species. Other proposed projects involve research, in-

cluding surveys to determine if additional species should be listed for protection (India now has 45 species listed as Endangered or Threatened—24 mammals, 9 birds, and 12 reptiles). Studies have also been proposed on animal diseases, habitat identification and classification, and habitat alteration as it affects endangered species.

Additional projects have been proposed for the development of protective legislation, captive breeding, and habitat management. The program anticipates on-the-job training for wardens and administrators and the development of formal educational curricula at universities and secondary schools, plus bringing the plight of endangered species to the attention of the general public.

Similar activities have been proposed by officials of Pakistan, which has 21 listed Endangered species (12 mammals, 2 birds, and 7 reptiles). The government of Pakistan has already developed a national conservation plan, and identified about 20 projects which may receive funding through the excess foreign currency program. As in India, the projects selected for funding are designed to assist Pakistan with research, management, training, and public awareness efforts.

Program Potential

As for future projects, Lawrence N. Mason, deputy chief of the International Affairs office and team leader of the 1977 U.S. mission to Egypt, says

(continued on next page)



Photo by Gerard A. Bertrand

The lion-tailed macaque is now found in the wild only in the western Ghats Mountains near the tip of India's peninsula. Population was estimated in 1968 at less than 1,000.



Photo by Gerard A. Bertrand

This young mugger crocodile is one of a number being raised in captivity by India for reintroduction into the wild

plans are being discussed to create regional wildlife management training centers in India, Pakistan, and Egypt. This would expand the impact of the excess foreign currency program beyond the borders of these countries by using the centers to instruct personnel from neighboring nations.

Mason says the program could finance construction of the training center facilities. Some funds for this purpose may be available from the Agency for International Development institution-building program.

In India, Pakistan, and Egypt, he adds, excess foreign currencies also could be used to erect buildings for the conduct of research and to house administrative staffs, as well as for the purchase of habitat for Endangered species. "We even may be able to endow chairs at universities in wildlife management. That would be a novelty for the U.S. Government."

David Ferguson, a wildlife biologist and coordinator of the excess foreign currency program, sees great leverage in the program. "These excess currencies would be used for some other purpose if we couldn't use them for endangered species conservation. The small amount of Service manpower and money involved is a good investment for the high potential amount of wildlife habitat protection obtained."

U.S.-Soviet Cooperation

Wildlife and ecosystem protection are important aspects of the U.S.-USSR Agreement on Cooperation in the Field of Environmental Protection, which also includes scientific exchanges on such matters as the control of air and water pollution, control of pesticides, protection of the marine environment, and earthquake prediction. The agreement, signed in 1972, was renewed for another five years in 1977.

While wildlife biologists at the working level in both countries have enthusiastically agreed upon a number of studies of mutual interest, especially

for species known on both continents, actual progress in getting projects started has been slow. Raisa Scriabine, coordinator of the U.S./USSR program, attributes past delays to communications problems and difficulties in gaining access to institutions and individuals in the Soviet Union.

But recently, she says, trust and rapport on the political level have improved. "We are getting to the point where we can get what we both need." We have a lot to learn from the Soviets, according to Scriabine. "In some areas, they are far ahead of us, protection-wise."

Conservation and environmental protection have been major goals of the government in recent years, and many species in the Soviet Union—such as the Eurasian beaver, which was in danger of extinction in the 1930's—have been restored through captive breeding. Last year, the Soviets enacted a law protecting all wildlife.

This year's agenda calls for a number of exchanges with the Soviets—including visits by scientists—on the protection of migratory birds, the study of raptors and their role in ecosystems, the study of northern ecosystems, plants, and captive breeding of endangered and threatened species.

Siberian White Crane

In the Siberian crane project, which took three years to negotiate, International Crane Foundation scientists originally wanted to do the captive breeding in the Soviet Union. But in consultations with Dr. Vladimir Flint, a Siberian crane expert with the Soviet Ministry of Agriculture's Central Laboratory for Nature Conservation, it was decided that facilities there were not suitable, and that it was more prudent to locate the project here. ICF is associated with the University of Wisconsin at Madison, which has hatching and quarantine facilities. After 30 days, the chicks are brought to ICF at Baraboo, Wisconsin, 45 miles north of Madison for raising and breeding.

Last July, a pilot transfer of four eggs collected by Flint from Siberian crane nests was accomplished via commercial airlines. Two of the four eggs were fertile and both hatched. The birds—a male and a female—are now maturing and will be used in the captive breeding program along with those which survive from this year's scheduled transfer of 12 eggs. The ICF also has two mature Siberian cranes which were acquired earlier.

Dr. George Archibald, head of ICF, says the crane apparently has declined because of destruction of the bird's preferred wintering habitat—shallow wetlands with abundant vegetation. It is now found in the winter only in a small sanctuary near Agra, India, and along the Yangtze River in China.

A foster parent technique will be used in attempting to start a third flock that will winter at a refuge in Iran, where the crane formerly migrated. Once the captive-reared birds are able to mate and commence egg production, their eggs will be transported back to the USSR and placed in the nests of common cranes which winter in Iran. It is hoped the common cranes will rear them in the same way sandhill cranes have been used to hatch and rear Endangered whooping cranes (*Grus americana*) from eggs placed in their nests at (the Service's) Gray's Lake Refuge in Idaho.

One hitch in the plan is that common cranes nest much earlier than Siberian cranes and have already hatched their young by the time their



International Crane Foundation photo

One of the Siberian crane chicks hatched last year at the University of Wisconsin is now nine months old



Photo by Raisa Scriabine

Dalmation pelicans are being raised at the Soviet Union's Astrakhan Preserve on the Volga River, one of 125 such preserves now found throughout USSR

rarer cousins are laying eggs. ICF has found that by artificial photoperiod, they can induce captive Siberian cranes to lay eggs at precisely the same time that wild common cranes nest. These eggs can then be flown to Siberia for the egg switch.

The ICF expects that it will take about 5 to 10 years to build a new flock in the wild. A Soviet film of Flint collecting the Siberian crane eggs last year is to be shown soon in this country on public television.

Botanical Exchange

In the summer of 1976, and again in 1977, American and Soviet botanists exchanged visits, observing the strong floristic relationships which exist between eastern and western North America and Asia Minor and eastern Asia. The Americans toured preserves in the Caucasus mountains and near the Black Sea to see a stand of a rare subspecies of pine (*Pinus brutia pithyusa*) and an endemic boxwood (*Buxus colchida*). A total of 125 such "preserves" have been established throughout the Soviet Union, providing protection for every type of ecosystem.

Top Soviet scientists live in the pre-

serves and every year publish the results of their studies. Some of the preserves are fenced, and no visitors or hunters are allowed in any of them. (Also, the picking of wild flowers in the Moscow area has been banned.)

On their visits to this country, groups of Soviet botanists took field trips through the Adirondack, Appalachian, and Rocky mountains. They observed rare and endangered plant species, collected seeds and specimens, and visited botanical gardens.

This year, both sides have agreed that three U.S. botanists will take 40- to 45-day field trips, in the Altai and Lake Baikal areas, to collect botanical samples. A Soviet delegation will take a similar tour through North and South Dakota, Minnesota, and Wisconsin. In addition, joint botanical research projects with American and Soviet scientists working side by side will be conducted at arboretums in each country, with the emphasis on rare, threatened, and endangered species. The results of this work are expected to be published jointly.

Migratory Birds

Several studies and exchanges are

in progress relating to migratory birds, including raptors. On Wrangel Island, in the Eastern Siberian Sea, Dr. William Sladen of Johns Hopkins University has been tagging and marking snow geese (*Chen caerulescens*) with Dr. A. A. Kistchinski of Moscow's Institute of Evolutionary Morphology and Animal Ecology of the USSR Academy of Sciences in an effort to determine why their numbers have been declining. The geese migrate between Siberia and southern California.

The research has shown important differences between the migration habits of the Wrangel Island and Canadian snow geese populations and has identified areas where they are hunted and protected, and where additional protection is indicated.

A similar project involving the Endangered arctic peregrine falcon (*Falco peregrinus tundrius*), which occurs in northern Russia as well as Alaska and Canada may get underway this year. Dr. Prescott Ward of the U.S. Army Aberdeen Proving Grounds has been live-trapping and marking arctic peregrines since 1970 at the Assateague Island National Seashore off the coasts of Maryland and Virginia. He is hopeful that two Soviet scientists will be permitted to observe the migratory studies this fall and cooperate in getting a more accurate idea of the raptor's population in the Soviet Union.

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Saudi Arabian Projects

In 1974, the United States and Saudi Arabia established a Joint Commission on Economic Cooperation. Subsequent agreements call for the Department of Interior to provide technical assistance in the form of manpower and information to the Saudi government through a multi-million dollar trust fund established with the U.S. Treasury by the Saudi government expressly for this purpose. All expenses to the U.S. are defrayed by this fund.

Since May 1977, the Service has been periodically active in assisting in the development of a management plan to conserve the houbara bustard (*Chlamydotis undulata*), a turkey-sized game bird that has declined because of overhunting.

Subsequent requests for assistance in recruiting personnel in wildlife biology have been incorporated into an overall goal to promote wildlife conservation policies in the kingdom and to stimulate interest in creating a governmental agency to administer those policies.

International Activities

Musk Oxen and Polecats

As part of a joint management plan under the environmental agreement, the Service in 1975 facilitated the transplant of 40 musk oxen (*Ovibos moschatus*) from Alaska to two locations in Siberia. The musk ox evolved a million years ago on the arctic steppes of north-central Russia, later migrating to what are now Alaska, Canada, and Greenland. They were extirpated in Asia 200 years ago, and 100 years ago in Alaska.

The musk oxen (15 males and 25 females) relocated in the USSR came from a herd of 600 to 700 existing on Nunivak Island National Wildlife Refuge off the Alaskan coast. (This herd, in turn, had grown from a transplant of 31 musk oxen purchased by the U.S. from Greenland in 1936.) Two young musk oxen have been born since the relocation, and the transplant is now considered a success.

The Soviets have supplied the Service's Patuxent Wildlife Research Center with 35 specimens of Siberian polecat (*Mustela eversmanni eversmanni* and *M. e. satunini*) to augment captive propagation studies with Endangered black-footed ferrets (*Mustela nigripes*) which they closely resemble. The polecats have proven of limited usefulness as surrogate breeders, however, because the shipment included only two females.

U.S.-Mexican Cooperation

The Service in 1975 signed an agreement with its counterpart agency in Mexico, the Direccion General de la Fauna Silvestre, to form a Joint Committee on Wildlife Conservation. Several projects are now in progress with support from the National Wildlife Federation, the National Audubon Society, and the Texas and New Mexico Departments of Fish and Game. All the projects involve Endangered or Threatened species.

In addition, the agreement covers such areas of common interest as law enforcement, migratory birds, wildlife research and transplants, training and public information programs, and ecological studies in the Baja California-Sea of Cortez area.

A Committee population study completed on the Mexican wolf (*Canis lupus baileyi*) indicates the subspecies has been extirpated from the U.S. and that probably less than 100 individuals remain in Mexico. The population—mostly scattered individuals and very few family groups—is threatened by poison bait placed by ranchers, a practice the Committee would like to stop.



Photo by Raisa Scriabine

Soviet scientists tag one of the 40 musk oxen involved in the 1975 relocation from Nunivak Island National Wildlife Refuge to Wrangel Island and Taymyr Peninsula in the USSR

Some of the wolves have been live trapped and shipped to the Sonora Desert Museum at Tucson, Arizona, where a captive breeding program may be undertaken.

A search is continuing for the Mexican grizzly bear (*Ursus arctos nelsoni*) but so far without success. The subspecies has been extinct in the U.S. for at least 20 years and is believed to be extinct in Mexico.

A search for a breeding population of the California condor (*Gymnogyps californianus*) in Mexico's northern Baja California also has proved fruitless. The search last August was prompted by several unconfirmed sightings of the bird in recent years along the peninsula. The Committee now believes that no breeding population of condors exists in Mexico.

Border Surveys

U.S. and Mexican biologists are cooperating in studies and aerial surveys of species which exist along the border—the Sonoran pronghorn antelope (*Antilocarpa americana sonorencis*), masked bobwhite quail (*Colinus virginianus ridgwayi*), and Mexican duck (*Anus platyrhynchos diazi*), which is now estimated to number at least 22,000 in the Mexican highlands.

The Joint Committee is seeking more population data on the jaguar (*Panthera onca*) to determine the status of

this cat in Mexico. A public information program has been initiated for Mexican citizens to promote the reporting of sightings of the whooping crane. The U.S. also is working with Mexico on the protection of whales and sea turtles.

Hemispheric Treaty

In addition to working with Mexico, the Service has started up projects with other Latin American nations to promote implementation of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere. These projects include the following:

- **Brazil**—A bird banding program is in progress to adopt techniques that are compatible with the common system now used by the U.S., Canada, and Mexico. (The bird-banding lab at Patuxent participated in a training program for a Brazilian last summer.) Research also is underway on the Amazonian manatee (*Trichechus inunguis*).

- **Venezuela**—A regional training center is being established for wildlife and park managers by the Service and the NPS.

- **Ecuador**—A proposal by Ecuador for assistance in wildlife management and training is under review by the Service and NPS.

(continued on next page)

International Activities

The Convention was signed by the United States in 1940. But Congress did not authorize its implementation until passage of the Endangered Species Act of 1973. Other nations also had displayed little interest in putting the treaty into effect, until recently. The decline in wildlife resources, however, is now more generally recognized as a hemispheric as well as a global problem—particularly in the realm of protecting migratory birds.

The Convention calls for the establishment of wilderness areas, parks, and reserves with protected boundaries, to conserve migratory species. It also would regulate trade in plant and animal species that have been listed by its party nations.

The Organization of American States has scheduled workshops this year on the protection of natural areas, migratory species, marine mammals, education and training, and environmental education to develop papers discussing needs and issues. The U.S. has offered to host a workshop to address legal issues and the need for concern about the preservation of wildlife resources in the western hemisphere.

These workshops will set the stage for a conference in 1979 of scientists and program managers from OAS nations to establish priorities for implementing the Convention throughout North and South America. (Canada is not a member of the OAS, but has indicated it may accede for the purposes of participating in the Convention.) A general assembly session would be scheduled later.

Migratory ES Convention

The Service also is an active participant in the work of the International Union for Conservation of Nature and Natural Resources (IUCN), headquartered at Morges, Switzerland. Last October, the previous chief of the Service's International Affairs office, Earl B. Baysinger, was selected for a two-year detail to the United Nations Environment Programme. He has been assigned as executive officer of the IUCN's Survival Service Commission, which is responsible for compiling biological data and advising on the status of species nominated for listing in the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Baysinger maintains a close working relationship with the Service on all matters of international significance.

Currently, the IUCN's Environmental Law Centre in Bonn, Germany, is drafting the terms of a new convention which would cover all migratory endangered species and set minimum criteria for their management as a counterpart to the Convention on International Trade. The draft will be reviewed at a meeting in Bonn this summer and a conference of interested party nations is expected to be held next year to set up the Convention.

International Affairs chief Bertrand says, "We think the migratory endangered species management convention is a promising conservation effort—and, if the final draft meets our requirements, the United States will be a prime supporter."

• The ruling will facilitate more effective administration because it will more accurately reflect the biological situation of the species.

• It is best to retain the designated state boundaries for listing.

• Although the populations in Oregon and Minnesota are doing better than those in other states, their total numbers are not sufficiently large to permit them to be excluded from listing.

• There are instances in which logging is known to have been harmful to bald eagles, but it is recognized that not all logging activities are detrimental to the species' wellbeing.

• The Michigan, Minnesota, Oregon, Washington, and Wisconsin populations warrant Threatened rather than Endangered status because they are comparatively large, are breeding relatively well, and they are essentially continuous with much larger populations in neighboring Canada.

• Stringent regulations will be applied to both Endangered and Threatened bald eagle populations.

Consequently, the final ruling on the bald eagle is essentially the same as the original proposal. On a nationwide basis, the breeding range of the species has been considerably reduced in recent years, owing to widespread loss of suitable habitat and the adverse effects of recreation, logging, and other human activities. In particular, illegal shooting continues to be the leading cause of direct mortality in both adult and immature bald eagles.

The Service expects that adding the protective measures of the 1973 act (especially section 7) to the existing statutes (the Bald and Golden Eagles Protection Act and the Migratory Bird Treaty Act) will increase the species' long-term chances of survival.

In issuing the final ruling, the Service also stated that it intends to designate Critical Habitat for the bald eagle as soon as substantial data have been compiled and analyzed. Accordingly, the Service invites organizations and individuals with relevant information to write to the Director, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240.

Eagle (continued from page 1)

based on its findings (F.R. 7/12/76).

Comments

The Service received comments on the proposal from about 120 U.S. Senators, U.S. Representatives, Federal agencies, state governments, organizations, corporations, and private citizens. More than 100 of these responses expressed support for the proposed ruling.

Several state governments expressed concern that the eagles could come under different, possibly improper, classifications as they moved from one state or country to another; that the ruling was being made only for administrative purposes; and that eagle populations in particular states (e.g., Oregon and Minnesota) are neither Endangered nor Threatened).

The Federal Timber Purchasers Association questioned the need for any rulemaking. Several logging companies also expressed criticism, includ-

ing the comment that logging should not be cited as a threat to the bald eagle.

The Environmental Defense Fund, as well as two private citizens, stated that the species should be listed as Endangered throughout its entire range. The National Audubon Society, the American Ornithologists' Union, and the Smithsonian Institution, while generally supporting the proposal, recommended extending Endangered status to the bald eagles in Oregon and the southern parts of Michigan, Minnesota, and Wisconsin. The National Wildlife Federation and the Wilderness Society requested Service assurance that Threatened eagles would receive essentially the same protection as Endangered eagles.

Conclusions

After reviewing the comments received, the Service came to the following conclusions:

Reference Note

All Service notices and proposed and final rulemakings are published in the *Federal Register* in full detail. The parenthetical references given in the BULLETIN—e.g., (F.R. 1/17/78)—identify the month, day, and year on which the relevant notice or rulemaking was published in the *Federal Register*.

Rulemaking Actions – February 1978



Photo by Thomas A. Wiewandt

A Mona ground iguana poses on coral outcrop

Mona Island Boa, Iguana Listed

In a final rulemaking, effective March 6, the Service has determined that the Mona boa (*Epicrates monensis monensis*) and the Mona ground iguana (*Cyclura stejnegeri*) are Threatened and that their range—Mona Island—should be designated as Critical Habitat (F.R. 2/3/78).

Unique to Mona Island (part of the Commonwealth of Puerto Rico), the two reptiles are threatened by possible habitat modification and the presence of competitive and predatory feral animals.

Given that the island's fauna also includes three birds already listed as Endangered and that there are still other species that may qualify for listing in the future, this final rulemaking helps provide protection for an entire, unique ecosystem.

Background

As published in the *Federal Register* on May 26, 1977 (see June 1977 BULLETIN), the Service's original proposal recommended Threatened status and Critical Habitat determination for the boa and iguana and also the Mona blind snake (*Typhlops monensis*). The

principal threats to the three reptiles were cited as being adverse habitat modification resulting chiefly from development of a major oil superport on the island, and also predation and competition by wild pigs, goats, and other feral mammals.

Commenting on the proposal, Dr. Fred V. Soltero Harrington, secretary of the Puerto Rico Department of Natural Resources, expressed concern for the status of the three reptiles and emphasized the threat posed by natural predators. He also pointed out that the superport plans had been abandoned and that the Commonwealth intended to develop the island as a natural area.

Conclusions

Following an indepth review of all comments, the Service concluded that, although a superport will not be built, increased tourism and other recreational activities could damage or destroy the boa's and iguana's habitat, particularly nesting areas. In addition, feral mammals continue to pose a threat to the reptiles.

In determining Threatened status

and Critical Habitat for the two reptiles, therefore, the Service emphasized the need for feral mammal control and some controls on recreational use. The Service noted that the Puerto Rico Department of Natural Resources has already begun to station law enforcement personnel on the island and is currently reviewing a comprehensive management plan.

In addition, the Service decided not to list the blind snake, in that the species is no longer threatened by extensive modification of its subsurface habitat by port construction.

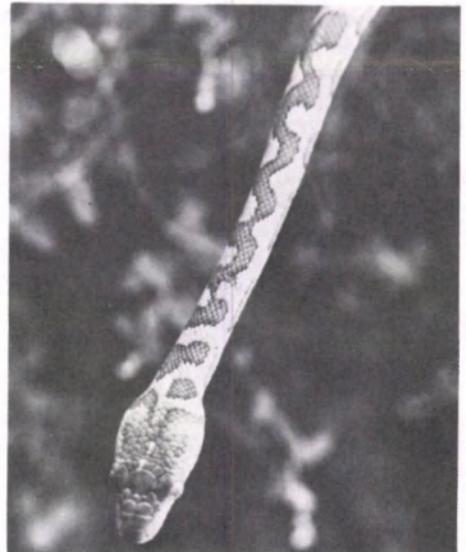


Photo by Thomas A. Wiewandt

Mona boa is a rarely sighted species

Review of Convention Species

The Service is requesting help in gathering information on species native to the United States that are now protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

The data—needed by April 15—will be used by the Service's Wildlife Permit Office, as U.S. Management Authority for the Convention, in formulating proposed changes in the species listed in the appendices of the Convention. The proposed changes must be published in the *Federal Register* by May 15. (All party nations must submit their formal proposals for alterations in the listings to the Convention Secretariat by July 31, 1978.)

A list of the species on which information is requested may be obtained from the Wildlife Permit Office, or may be found in the March 6, 1978 issue of the *Federal Register*.

ENDANGERED SPECIES SCIENTIFIC AUTHORITY

Notices—March 1978

The Endangered Species Scientific Authority (ESSA) is responsible for the biological review of applications to export or import species listed in Appendix I, and to export species listed in Appendix II, of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Notices of ESSA's findings and other actions are published in the Federal Register. Summaries of these notices are reported in the BULLETIN by month of publication.

Rulemaking Procedures Set for 1978-79 Exports

A rulemaking procedure that involves public participation will be followed by the Endangered Species Scientific Authority (ESSA) in determinations on export of the 1978-79 harvest of bobcat, lynx, river otter, and American ginseng.

In a notice published in the *Federal Register* on March 16, 1978, ESSA announced the following timetable for the rulemaking (dates are approximate):

April 10—A notice will be published in the *Federal Register* stating the

types of biological, harvest, and other data ESSA will need in order to find in favor of exports of the three animal and one plant species. Copies of the notice will be sent to State fish and wildlife agencies and other interested parties. Thirty days will be provided for comment.

May 1—A hearing will be held by ESSA on the information needed to satisfy ESSA that export will not be detrimental to the survival of the four species.

July 7—ESSA's preliminary findings for the 1978-79 season will be published, with a 30-day comment period.

Sept. 1—ESSA's final findings for the 1978-79 season will be published in the *Federal Register*.

The rulemaking procedure was requested by the International Association of Fish and Wildlife Agencies, the Defenders of Wildlife, and others, under terms of the Administrative Procedure Act.

ESSA is developing more general procedures for use on a permanent basis to allow public participation, and will propose these procedures in the near future.

ESSA Meetings Opened to Public

The Endangered Species Scientific Authority (ESSA) has established procedures providing for public attendance—and, to a limited degree, participation in—ESSA meetings.

Each such meeting will begin with a public comment period, generally lasting no more than 30 minutes. Any individual may make a public comment or statement regarding ESSA matters, provided that a prior appointment has been made with the ESSA executive secretary.

Following the public comment period at a regular ESSA meeting, members of the public may remain as observers, except when the ESSA is in executive session. Observers do not need to make appointments, except to guarantee themselves seating.

The ESSA expects that meetings open to the public will be held on the first Tuesday of each month. However, this is subject to change without public notice. To obtain further information on the new procedures, as well as specific meeting dates, times, and places, and to make appointments to speak at public comment periods, contact the Office of the Executive Secretary, ESSA, 18th and C Streets, N.W., Washington, D.C. 20240 (telephone: 202-343-5687).

Louisiana Contests ESSA's Controls On Bobcat, Otter

The State of Louisiana is seeking an injunction and declaratory judgment against the Endangered Species Scientific Authority (ESSA), claiming the agency's regulation of bobcat and river otter exports is an "arbitrary and unlawful" restriction of legitimate commerce.

The civil case (docket no. 78-423) filed February 8 in the United States District Court for Eastern Louisiana is the first test of ESSA actions taken under provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

In their brief, attorneys for the State allege that the bobcat and river otter were listed illegally on Appendix II of the Convention because of a lack of supporting evidence that actual or potential trade constituted a threat to the survival of the species, and because an environmental impact statement was not proposed for the listing. In addition, they allege that ESSA did not give

adequate opportunity for public participation in its findings, and that ESSA unlawfully restricted export without evidence of detriment to these two furbearers from Louisiana.

The request for an injunction is directed at ESSA's finding last year resulting in prohibition of export of bobcat and otter pelts taken after November 30, 1977, and ESSA's subsequent decision to establish harvest quotas for the two species in each State where they occur, including quotas of 4,000 bobcats and 7,500 otters for Louisiana. These actions are illegal, the State maintains, because "the parties to the Convention listed such species on Appendix II for the purpose of monitoring their occurrence in trade and not for the purpose of restricting trade until such time as information obtained during such monitoring suggests to the parties a need for restriction."

The brief says the State's "minimum conservative" estimate of the resident

bobcat population is 33,000 and 30,000 for the river otter. Both species are subject to State licensing regulations covering a 90-day annual trapping season. In recent years, the bobcat harvest has increased, but the State maintains that the species is "still underharvested" in Louisiana because many areas of wooded habitat are inaccessible and never trapped. River otter populations in Louisiana were described as at their "highest level in the last 30 years."

Louisiana's Department of Wildlife and Fisheries initiated the suit. Two trappers and two fur dealers from Louisiana were also listed as plaintiffs. The Management Authority, members of ESSA, and William Y. Brown, executive secretary of ESSA, were named as principal defendants. Brown said that an answer to the complaint was in preparation.

Pending Rulemakings

The Service expects to issue rulemakings and notices of review on the subjects listed below during the next 90 days. The status or action being considered for each final and proposed rulemaking is given in parentheses.

The decision on each final rulemaking will depend upon completion of the analysis of comments received and/or new data made available, with the understanding that such analysis may result in modification of the content or timing of the original proposal, or the rendering of a negative decision.

Pending Final Rulemakings

- 6 butterflies (C.H.)
- Contra Costa wallflower and Antioch Dunes evening primrose (C.H.)
- 13 plants (E, T)
- Grizzly bear (C.H.)
- 15 crustaceans (E, T)
- Whooping crane (C.H.)
- Black toad (T, C.H.)
- New Mexican ridge-nosed rattlesnake (T, C.H.)
- 2 zebras (E)
- Socorro isopod (E)
- Little Kern golden trout (T, C.H.)
- (Greenback cutthroat trout (reclassification to T)
- 7 Eastern land snails (E, T)
- 12 Western snails (T)

Pending Proposed Rulemakings

- 10 North American beetles (E, T)
- 2 harvestmen (E, T)
- 3 mussels (C.H.)
- Rocky Mountain peregrine falcon population (C.H.)
- Colorado squawfish (C.H.)
- Virgin River chub (E, C.H.)
- 2 Hawaiian cave invertebrates (E, T)
- Leatherback sea turtle (C.H.)

BOX SCORE OF SPECIES LISTINGS

Category	Number of Endangered Species			Number of Threatened Species		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Mammals	36	227	263	2	17	19
Birds	68	144	212	3		3
Reptiles	10	46	56	6		6
Amphibians	5	9	14	2		2
Fishes	30	10	40	10		10
Snails		1	1			
Clams	23	2	25			
Crustaceans						
Insects	6		6	2		2
Plants	4		4			
Total	182	439	621	25	17	42

Number of species currently proposed: 108 animals
1,867 plants (approx.)

Number of Critical Habitats proposed: 39
Number of Critical Habitats listed: 26
Number of Recovery Teams appointed: 59
Number of Recovery Plans approved: 15
Number of Cooperative Agreements signed with States: 21

February 28, 1978

- Puerto Rican whip-poor-will (C.H.)
- Laysan duck (C.H.)
- Bonytail chub (E)
- Razorback sucker (T)
- West African manatee (T)
- 20 Appendix I spp.
- Cui-ui (C.H.)
- Whooping crane (C.H.—additional areas)
- Illinois mud turtle (E, C.H.)
- Key mud turtle (E, C.H.)
- Plymouth red-bellied turtle (E, C.H.)
- 5 Ash Meadow plants (C.H.)
- 7 California and Oregon freshwater fishes (E, T)

- 23 foreign mammals and 1 bird (E)
- Light-footed clapper rail and yellow-shouldered blackbird (C.H.)
- Santa Cruz long-toed salamander (C.H.)
- Hawksbill sea turtle (C.H.)
- 2 Virginia fishes (T, C.H.)
- Maryland darter (C.H.)
- 4 Texas/New Mexico fishes (E, T, C.H.)

Pending Notice of Review

- Rhesus monkey in Bangladesh

Abbreviations: E=Endangered, T=Threatened, C.H.=Critical Habitat



ENDANGERED SPECIES TECHNICAL BULLETIN

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

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