



# ENDANGERED SPECIES TECHNICAL BULLETIN

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

## EXEMPTION PROCESS STAYED AS AGENCIES REINITIATE CONSULTATION ON MAINE REFINERY



*Aerial view of Eastport, Maine, shows the proposed Pittston refinery site in the large open area (including the airport). Piers would be constructed on both sides of the peninsula in the lower left of the photo. (North would be at an angle toward the upper left corner.)*

U.S. Fish and Wildlife Service photo

Following the receipt of new information on possible impacts of the project on the bald eagle, the Service and the Environmental Protection Agency have agreed to consult again on Pittston's marine terminal and oil refinery slated for construction at Eastport, Maine. In line with the March 5 decision, Secretary Andrus and the Pittston Company agreed that Review Board consideration of an exemption for the project should be suspended for as long as 90 days—or until consultation is completed in accord with Section 7 of the Endangered Species Act of 1973.

On January 26, attorneys for the Pittston Company had applied to Secretary Andrus for an exemption from the requirements of Section 7—a process recently provided through amendments to the 1973 Act—to allow construction of the \$700 million refinery and terminal. The application was the first received since enactment of the 1978 amendments, which permit exemption consideration for Federal activities (under stipulated conditions) by a newly established Endangered Species Committee after initial screening by a Review Board (see October 1978 BULLETIN).

All parties involved in the consultation agreement hope that information obtained will result in alternatives which would minimize expected impacts on the eagle without recourse to the cabinet-level Endangered Species Committee.

The consultation agreement was reached with encouragement from Secretary Andrus (designated as Chairman of the Endangered Species Committee), who said the special

## Critical Habitat Proposals Withdrawn; Other Proposals to be Supplemented

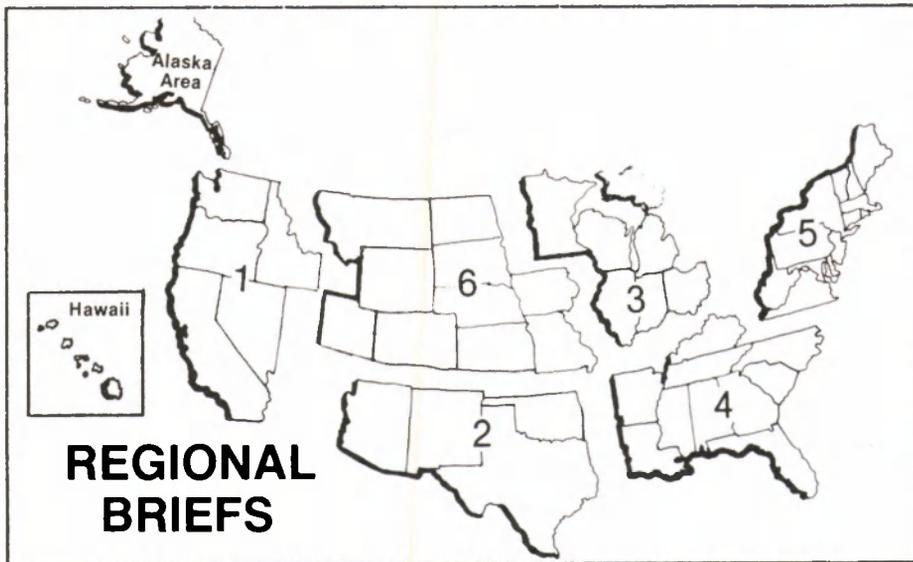
In compliance with requirements of 1978 amendments to the Endangered Species Act, the Service has withdrawn proposed rulemakings to designate Critical Habitat for various animals listed (or proposed for listing) as Endangered or Threatened species. In addition, the Service has announced that other proposals to add some 1,700 species to the list, although they have

not been withdrawn, may not be finalized until supplemented with additional information (F.R. 3/6/79).

To meet the requirements of the 1978 amendments (discussed in the October 1978 BULLETIN), all proposals to list species as Endangered or Threatened must also contain, "to the maximum extent prudent," specific-

*Continued on page 4*

*Continued on page 3*



Endangered Species Program regional staffers have reported the following activities for the month of February.

**Region 1.** The California pitcher plant (*Darlingtonia californica*), a candidate Threatened species, is the sub-

ject of a recently completed study to determine its distribution and abundance, to document the nature and extent of threats to its survival (including trade), and to recommend management actions for its conservation.

**U.S. Fish and Wildlife Service  
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A technical report on the Threatened and Endangered plants of the Sheldon National Wildlife Refuge in northern Nevada is being printed, and should be available for distribution in early May.

A recovery plan for the Antioch Dunes evening primrose (*Oenothera deltooides* ssp. *howellii*) and contra costa wallflower (*Erysimum capitatum* var. *angustatum*) has been drafted in the Portland Regional Office. The plan also addresses recovery considerations for Lange's metalmark butterfly (*Apodemia mormo langei*), which occurs in the same area. The Service is now exploring the possibility of acquiring lands essential to the survival of the three species.

Late in February, the Service approved a contingency plan for captive propagation of the critically Endangered California condor (*Gymnogyps californianus*). The multi-faceted propagation program—to be highlighted in the April 1979 BULLETIN—will be implemented as part of the overall condor recovery planning effort.

**Region 2.** All nine whooping cranes (*Grus americana*) of the experimental Grays Lake flock migrated north after wintering safely in the Rio Grande Valley in New Mexico (eight of the birds) and in Chihuahua, Mexico (one individual).

The Texas wild rice (*Zizania texana*), which historically occurred only in the spring-fed San Marcos River System (Hays County, Texas), is now restricted to a small portion of that original range. Efforts to reestablish the plant have been frustrated because nutria eat the transplants literally overnight. The Service's Division of Animal Damage Control recently trapped about 70 nutria within the problem area over a two-week period, and it is now hoped that this spring's transplants will have a better chance of surviving.

Seven active bald eagle (*Haliaeetus leucocephalus*) nests have been observed in the vicinity of the Salt and Verde Rivers near Phoenix—the only known active nests in this region of the country.

**Region 3.** On February 7-8, the Kirtland Warbler Recovery Team met to review the coming year's recovery effort and to gear up for this season's cowbird trapping program—an activity known to benefit *Dendroica kirtlandii*.

Jim Engel went to St. Louis on February 15-16 to meet with representatives of private industry and affected States concerning upcoming surveys of the Illinois mud turtle, *Kinosternon flavescens spooneri*, (and similar species) within its known range in Illinois, Iowa, and Missouri.

**Region 5.** Paul Nickerson testified before the legislative bodies of New

Hampshire and Vermont on proposed endangered species bills that would allow these States to enter into cooperative agreements with the Service, entitling them to Federal matching funds. The New Hampshire bill was subsequently defeated, although no action has yet been taken on the Ver-

mont legislation.

Dick Dyer met with representatives of seven States in Baltimore at a 2-day botanical workshop to discuss progress, exchange ideas, and coordinate activities for this season's plant surveys. The regional office has been especially pleased with participation

in the survey effort.

Boston regional employees, State personnel, and representatives of Cornell University met at Albany to plan forthcoming releases of peregrine falcons (*Falco peregrinus anatum*) in various States this spring. A tentative release schedule was established.

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## Exemption Process Stayed on Maine Refinery

*Continued from page 1*

Committee should serve "only as a court of last resort." Andrus believes there should first be "ample opportunity to develop data, in the hope that accommodation can be reached without doing violence either to an Endangered species or to a project."

### Background

Two Endangered species, the Arctic peregrine falcon (*Falco peregrinus tundrius*) and bald eagle (*Haliaeetus leucocephalus*), are found in or near the Cobscook Bay area, where the terminal and refinery are now planned. In accordance with the requirements of Section 7, EPA initiated consultation with the Service's Boston Regional Office on September 12, 1978, on the impacts of the proposed project on listed species (prior to issuance of a wastewater discharge permit).

On December 21, 1978, the Boston office issued a biological opinion stating that the terminal and refinery would likely have "a negligible effect" on the peregrine falcon and its habitat (as the falcon rarely occurs in the area, generally migrating through an area some 200 miles west of Cobscook Bay). However, the Service determined that the Pittston project, as proposed, would likely jeopardize the continued existence of the bald eagle.

The northeastern bald eagle population has suffered a reduction in nesting success, particularly in the last several decades. Today, only four breeding pairs remain in the entire western half of coastal Maine, and of these, only one has successfully fledged young in recent years. However, the population has recently begun to recover in one area—northeastern coastal Maine—from Penobscot Bay to Cobscook Bay. In fact, the Cobscook Bay area has been identified as one of three areas in northeastern Maine under consideration as "Critical Habitat" for the eagle. Cobscook Bay alone has eight occupied nest sites, which accounted for 20 and 25 percent of the total production for the northeastern United States eagle population in 1977 and 1978, respec-

tively.

According to Service biologists, three principal factors have contributed to the decline of the eagle and continue to inhibit its recovery: (1) environmental contaminants (such as DDT and its breakdown products, PCB's, Dieldrin, and mercury, all of which have been found in dangerously high concentrations in unhatched Maine eagle eggs); (2) elimination of nesting habitat by human development; and (3) disturbance of nest sites by increased human activity. Upon completion of the Pittston project, significant adverse impacts on eagles and their habitat are expected to result from air pollution, development stimulated by refinery construction and operations, and oil spills.

Air pollution impacts are expected to result from mercury, lead, or sulphate emissions from the refinery. Lead and mercury are of particular concern because of their toxicity and their known accumulation in magnified levels as they pass to higher trophic levels in the food chain. It is also feared that sulphate emissions will aggravate an existing problem in the project area—acid rain and the acidification of lakes—which could contaminate populations of lake fish on which eagles largely depend for food.

Refinery construction and operation is also expected to stimulate development. Disturbance of eagles during and following construction of housing and industrial projects could result in nest desertions and decreased reproductive success. Increased development will also degrade Maine's coastal eagle habitat.

Oil spills would impact eagles through (1) embryonic mortality as a result of oil brought back to the nest by contaminated eagles; and (2) reduction of food items both in Cobscook Bay and in estuaries south of Eastport. The potential for mortality of eagle embryos is of special concern, as it has been shown that as little as five microliters of certain types of oil can result in a 70-98 percent mortality in mallard eggs. This small amount could easily be transported by adult eagles.

In the December opinion, the Service recommended either the Portland, Maine, monobuoy or the Blue Hill/Penobscot area as alternative locations for the Pittston project. Of the two, Portland was considered the most desirable location, as extensive planning has already been carried out by oil companies for development in this area. The Portland alternative would eliminate many of the project's impact's on the eagle, and would reduce the magnitude of remaining impacts, including contamination by oil spills and the stimulation of secondary development.

### Next Steps

A special consultation team has been appointed to consider the impacts of the Pittston project in light of suggested modifications in project design or operation. As part of the process, the Service scheduled public hearings for March 28, 29, and 30 (in Maine and Boston) to seek additional biological data on the project's expected impacts. (Consultation will also involve the Army Corps of Engineers, which would have to approve a permit for the project under the Rivers and Harbors Act.)

A second biological opinion must be issued within 90 days of reinitiation, or by June 4. If further consultation fails to modify the earlier finding of jeopardy, then the Review Board will proceed to consider (within 60 days) the adequacy of Pittston's exemption application in line with legislated procedures. If warranted, the Board will then prepare a report for consideration by the Endangered Species Committee.

Appointed in February, members of the Review Board (the first of its kind), include: Lawrence E. Lynn, Professor of Public Policy at Harvard University, appointed by Secretary Andrus; John E. Menario, President of the Greater Portland Chamber of Commerce (formerly the Portland City Manager), appointed by President Carter; and Francis L. Young of the Department of Justice, who would serve as administrative law judge.

# Proposals Affected by 1978 Amendments

Proposed title	Date of notice	Federal Register reference
Proposed Endangered status for 216 species appearing on Convention on International Trade <sup>1</sup>	Sept. 26, 1975	40 FR 44329-33
Proposed Endangered or Threatened status for 32 U.S. snails <sup>2</sup>	April 28, 1976	41 FR 17742-6
Proposal to determine 2 birds, 1 lizard, 3 snails, and 1 insect, all indigenous to the California Channel Islands, to be Endangered species <sup>3</sup>	June 1, 1976	41 FR 22073-5
Proposed Endangered status for some 1,700 U.S. vascular plant taxa <sup>4</sup>	June 16, 1976	41 FR 24524-72
Proposed determination of Critical Habitat for Grizzly Bear	Nov. 5, 1976	41 FR 48757-9
Proposed Endangered or Threatened status for 41 U.S. species of Fauna <sup>5</sup>	Jan. 12, 1977	42 FR 2507-15
Proposed determination of Critical Habitat for 6 butterflies and 2 plants <sup>6</sup>	Feb. 8, 1977	42 FR 7972-75
Proposed Threatened status and Critical Habitat for the black toad	March 11, 1977	42 FR 13567-69
Proposed determination of Critical Habitat for the Houston Toad <sup>7</sup>	May 26, 1977	42 FR 27009-11
Proposed determination of Critical Habitat for the woundfin	Nov. 2, 1977	42 FR 57329-30
Proposed Endangered status and Critical Habitat for 4 fishes	Nov. 29, 1977	42 FR 60765-68
Proposed Endangered listing and Critical Habitat determination for the Virginia and Ozark big-eared bats	Dec. 2, 1977	42 FR 61290-92
Proposed Endangered status and Critical Habitat for 5 fishes	Dec. 30, 1977	42 FR 65209-12
Proposed Endangered status for the bonytail chub and Threatened status for the razor back sucker	April 24, 1978	43 FR 17375-77
Proposed determination of Critical Habitat for the Maryland darter	May 12, 1978	43 FR 20518-19
Proposed Endangered status and Critical Habitat for 2 species of Turtles	May 19, 1978	43 FR 21702-5
Proposed determination of Critical Habitat for the hawksbill sea turtle	May 24, 1978	43 FR 22224-5
Proposed listing and Critical Habitat determination for 2 Hawaiian cave arthropods.	June 16, 1978	43 FR 26084-7
Proposed determination of Critical Habitat for the Santa Cruz long-toed salamander	June 22, 1978	43 FR 26759-60
Proposed Endangered or Threatened status or Critical Habitat for 10 butterflies or moths	July 3, 1978	43 FR 28938-45
Proposed Endangered status and Critical Habitat for the Illinois mud turtle	July 6, 1978	43 FR 29152-4
Proposed listing and Critical Habitat determination for a fish and a salamander	July 14, 1978	43 FR 30316-9
Proposed Endangered or Threatened status and Critical Habitat for 10 beetles	Aug. 10, 1978	43 FR 35636-43
Proposed Endangered or Threatened status and Critical Habitat for 3 Texas fishes	Aug. 15, 1978	43 FR 36117-20
Proposed Critical Habitat for the whooping crane	Aug. 17, 1978	43 FR 36588-90
Proposed Endangered status and Critical Habitat for the Beaver Dam Slope population of the desert tortoise	Aug. 23, 1978	43 FR 37662-5
Proposed Endangered status and Critical Habitat for the Virgin River chub	Aug. 23, 1978	43 FR 37668-70
Proposed Critical Habitat for the Colorado squawfish	Sept. 14, 1978	43 FR 41060-2
Proposed listing and Critical Habitat determination for the Coachella Valley fringe-toed lizard	Sept. 28, 1978	43 FR 44806-2

<sup>1</sup> Requires supplementation only insofar as it applies to the species listed below. The remaining native taxa affected by this proposal have already been the subjects of a final rulemaking.

Molluscs:

*Lampsilis satura*—plain pocketbook mussel.

<sup>2</sup> Requires supplementation except insofar as it applies to the species listed below, which have already been the subject of a final rulemaking.

Snails:

*Anguispira picta*—painted snake coiled forest snail.

*Discus macclintocki*—Iowa Pleistocene snail.

*Mesodon clarki nantahala*—noonday snail.

*Orthalicus reses*—Stock Island tree snail.

*Polygyriscus virginianus*—Virginia fringed mountain snail.

*Succinea chittenangoensis*—Chittenango ovate amber snail.

*Triodopsis platysayides*—flat-spined three-toothed snail.

<sup>3</sup> Requires supplementation only insofar as it applies to the species listed below. The remaining taxa affected by this proposal have either been previously withdrawn or have already been the subjects of a final rulemaking.

Insects:

*Coenonycha clementina*—San Clemente coenonycha beetle.

<sup>4</sup> Requires supplementation except insofar as it applies to the following species, which have already been subjects of final rulemakings.

Plants:

Betulaceae, Birch family: *Betula uber*—Virginia round-leaf birch.

Brassicaceae, Mustard family:

*Arabis macdonaldiana*—McDonald's rock cress.

*Erysimum capitatum* var. *angustatum*—Contra Costa wallflower.

Crassulaceae, Stonecrop family: *Dudleya traskiae*—Santa Barbara Island liveforever.

Fabaceae, Pea family:

*Astragalus perianus*—Rydberg milk-vetch.

*Baptisia arachnifera*—hairy rattlesnake.

*Lotus scoparius* ssp. *traskiae*—San Clemente broom.

*Vicia menziesii*—Hawaiian wild broad-bean.

Hydrophyllaceae, Waterleaf family: *Phacelia argillacea*—unnamed phacelia.

Lam. aceae, Mint family: *Pogogyne abramsii*—San Diego pogogyne.

Liliaceae, Lily family: *Trillium persistens*—persistent trillium.

Malvaceae, Mallow family: *Malacothamnus clementinus*—San Clemente Island bushmallow.

Onagraceae, Evening-primrose family:

*Oenothera avita* ssp. *eurekaensis*—Eureka evening-primrose.

*Oenothera deltoidea* ssp. *howellii*—Antioch Dunes evening primrose.

Poaceae, Grass family:

*Orcuttia mucronata*—Crampton's Orcutt grass.

*Swallenia alexandrae*—Eureka dune grass.

*Zizania texana*—Texas wild-rice.

Ranunculaceae, Buttercup family:

*Aconitum noveboracense*—northern wild monkshood.

*Delphinium kinkiense*—San Clemente Island larkspur.

Scrophulariaceae, Snapdragon family:

*Castilleja grisea*—San Clemente Island Indian paintbrush.

*Cordylanthus maritimus* ssp. *maritimus*—salt marsh bird's beak.

*Pedicularis turbishiae*—Furbish lousewort.

<sup>5</sup> Requires supplementation except insofar as it applies to the following species, which have already been the subjects of a final rulemaking.

Fishes:

*Etheostoma boschungii*—Slackwater darter.

*Hybopsis cahni*—Slender chub.

*Hybopsis monacha*—Spotfin chub.

*Noturus flavipinnis*—Yellowfin madtom.

*Speoplatyrhinus poulsoni*—Alabama cave fish.

<sup>6</sup> Withdrawn except insofar as it applies to the following species, which have already been the subject of a final rulemaking.

Plants:

Brassicaceae, Mustard family: *Erysimum capitatum* var. *angustatum*—Contra Costa wallflower.

Onagraceae: *Oenothera deltoidea* ssp. *howellii*—Antioch Dunes evening-primrose.

<sup>7</sup> Withdrawn insofar as it applies to areas C, D(3), D(4), D(5), and D(6). The other proposed areas have either been previously withdrawn or have been subjects of a final rulemaking.

# RULEMAKING ACTIONS

February - March 1979

## Rhesus Macaque in Bangladesh Not Eligible for Listing

Following an attempt to review the Bangladesh population of the Rhesus macaque (*Macaca mulatta*), the Service has determined that available data do not warrant its further consideration as a candidate for listing under the Endangered Species Act (F.R. 3/6/79).

A petition submitted by Dr. K. M. Green of the National Zoological Park, including supporting data on a survey of the macaque in Bangladesh,

prompted the Service to initiate review of the species' status on April 13, 1978. However, no substantive information was received in response to the Service's notice, and no comments were received from the Government of Bangladesh to support listing.

According to Service biologists, the Bangladesh population is widely distributed throughout an estimated 5,000,000-square mile area where it occurs in forests, mountainous re-

gions, river banks, and cultivated areas. It appears that Bangladesh comprises about 1 percent of the Rhesus macaque's range. The sub-species in that country is the nominate race, and is indistinguishable from Rhesus macaques occurring in China and India.

Following a thorough review of the material submitted by the petitioner, the Service has determined that the survey data were too limited to provide conclusive evidence of declines and threats substantial enough to warrant listing under current criteria, and has therefore withdrawn the species from consideration.

## Two Species of Crocodiles Under Review

Based on evidence of their decline and the loss of habitat suitable for their survival, the Service has announced a status review of American crocodile populations, *Crocodylus acutus*, outside of Florida, and the estuarine crocodile, *Crocodylus porosus* (F.R. 2/5/79).

While the American crocodile ranges throughout the Caribbean Sea and on the Pacific Coast of Central and South America, the Florida population is the only one now listed as Endangered (and Critical Habitat designated).

Surveys completed in 1974 (under contract to the New York Zoological

Society) indicate that the American crocodile may be endangered throughout its South American range. Information gathered by various researchers also shows the Mexican population as endangered, rare, or absent from parts of its former range, and declining in numbers.

The estuarine crocodile, which occurs throughout Southeast Asia and Australia, is believed to be declining in most of its range as a result of hide hunting.

The Crocodile Specialist Group of the International Union for the Conservation of Nature and Natural Resources

(IUCN) recently recommended both crocodile species be included on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora—an active treaty that regulates trade in jeopardized wildlife.

Because of these factors, the Service believes a comprehensive review of the status of both species is now warranted. Pertinent data on these two crocodiles would be appreciated and should be submitted to the Director (OES), U.S. Fish and Wildlife Service, by May 7, 1979.

## Withdrawals/Proposals

*Continued from page 1*

tion of Critical Habitat proposed for designation upon final listing. (All outstanding listing proposals will have to be supplemented with this information.)

Upon proposing Critical Habitat designation, the Service must also now include economic impact considerations—the primary reason for withdrawal of all pending Critical Habitat proposals. Other requirements include publication of Critical Habitat and listing proposals in scientific journals and

in local newspapers, and provisions for public hearings and meetings under certain circumstances. Moreover, all Critical Habitat proposals must now include a brief description and evaluation of those activities which may adversely modify the habitat area or be impacted by such a designation.

Comments will be considered in the formulation of supplements to affected proposals, which are summarized on page 5.

### Reference Note

All Service notices and proposed and final rulemaking are published in the *Federal Register* in full detail. The parenthetical references given in the BULLETIN—for example: (F.R. 6/30/78)—identify the month, day, and year on which the relevant notice or rulemaking was published in the *Federal Register*.

## San Esteban Island Chuckwalla Under Review

Due to the species' limited range and its increasing exploitation by the pet industry, the status of the San Esteban Island chuckwalla (*Sauromalus varius*) is being reviewed by the Service to determine if it should be proposed for Endangered or Threatened classification (F.R. 3/6/79).

In December 1978, the Service was petitioned to list the chuckwalla by Dr. Ted Case of the University of California—San Diego, who has just completed a 10-year study of the reptile. According to Dr. Case, this unique lizard—which reaches 2 feet in length and is often mistaken for the poisonous gila monster—is especially vulnerable to human predation because of its size, its extremely low reproduction rate, and its uncommonness within its specialized habitat. The chuckwalla's primary range is a single "arroyo" (or dry wash) that runs along the southeast corner of San Esteban Island, where the population is estimated at 4,500 animals.

Unless protection is given the lizard and its habitat, Dr. Case believes the



Photo by C. Kenneth Dodd

*One of the largest lizards in North America, the San Esteban Island chuckwalla is well camouflaged in its preferred habitat against all predators except humans.*

animals will be seriously threatened because of their increasing popularity in the exotic pet market.

All interested parties are invited to

submit pertinent information about the status of this species to the Director (OES), U.S. Fish and Wildlife Service, through June 4, 1979.

## SERVICE, ARIZONA-SONORA DESERT MUSEUM HOST MEETING ON MEXICAN WOLF

The Mexican wolf (*Canis lupus baileyi*), one of the rarest wolves in the world, was the topic of a meeting sponsored by the Fish and Wild-

life Service and the Arizona-Sonora Desert Museum on February 6-7 at the museum in Tucson.

Representatives from the Service

and other Federal agencies met with Game and Fish Department employees from Arizona, New Mex-

*Continued on page 8*

*Mexican wolf in captivity at Arizona-Sonora Desert Museum.*



U.S. Fish and Wildlife Service photo

## RECOVERY EFFORTS SLATED FOR CROCODILE

The Service has approved a recovery plan for the Endangered U.S. population of American crocodile (*Crocodylus acutus*), which has as its prime objective, "a self-sustaining population of American crocodiles throughout suitable habitat in the United States." The plan calls for extensive surveys to determine the location of habitat and the habitat needs of the species in all phases of its life cycle.

Crocodiles can be found in small ponds or creeks with two to five feet of water, which are protected from wind and strong currents, and are adjacent to larger bodies of water. Generally inactive during the day, crocodiles move about at night, moving into creeks, canals, and open bays primarily to feed.

Restricted to southern Florida, the U.S. crocodile population numbers only a few hundred. The Florida range currently includes the Everglades National Park, the upper Florida Keys from lower Plantation Key north to the upper end of Key Largo, and the lower Florida Keys, where a disjunct group of crocodiles are found. One estimate cites the population at 100 to 400 crocodiles, with no more than 20 breeding females.

The recovery team places the onus for the population decline (there were roughly 1,000 to 2,000 crocodiles in southern Florida near the end of the Nineteenth Century) on human activity. Crocodiles have been forced out of portions of their historic range by urbanization. Direct, human-caused mortality to crocodiles has been recorded in 14 instances between 1971 and 1977. These were mainly cases of shootings and highway road kills.

According to the team, observations indicate that crocodiles, relatively shy animals, are less tolerant of human activity than are alligators. They suggest that some of the species may have abandoned habitat solely because of human activities such as fishing and boating. (Along the north shore of the Florida Bay, which the National Park Service has seasonally closed to humans since the early 1970's, nesting activity has apparently increased.)

The recovery plan calls for the protection of sufficient habitat for all of the crocodile's needs, to be ascertained through an extensive survey effort. Then, according to the plan, the current Critical Habitat designation (F.R. 9/24/76) should be reviewed and altered if found inadequate.

Because the crocodile's status and distribution are not well known, the team states, "No quantitative goals

can be set for our crocodile population at the present time. Future research may provide a basis for specific recommendations, but a specific effort to enhance the present population is needed immediately."

Some of the immediate steps recommended by the team are:

- (1) public education, via the mass media in south Florida, on the critical status of the crocodile;
- (2) removal of eggs from "high-risk" nests for captive hatching and rearing of the young (starting with the 1978 breeding season);
- (3) an overview of ongoing and planned habitat disruption outside the Everglades National Park;

(4) a review of human-related mortality, both inside and outside the Everglades National Park; and

(5) a review of potential genetic dilution of the native population by escaped Jamaican specimens in the Fisheating Creek area. (The recovery team reports that escapees from a crocodile farm may be in Fisheating Creek and possibly mixing with native crocodiles in southwestern Florida.)

The recovery team is under the leadership of Dr. Howard W. Campbell, U.S. Fish and Wildlife Service, and includes: Richard Klukas, National Park Service; John C. Ogden, National Audubon Society; Tommy Hines, Florida Game and Fresh Water Fish Commission; Dr. William B. Robertson, Everglades National Park; and Dr. James A. Kushlan, Everglades National Park.

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## RECOVERY TEAMS FOR EAGLE, PRAIRIE CHICKEN

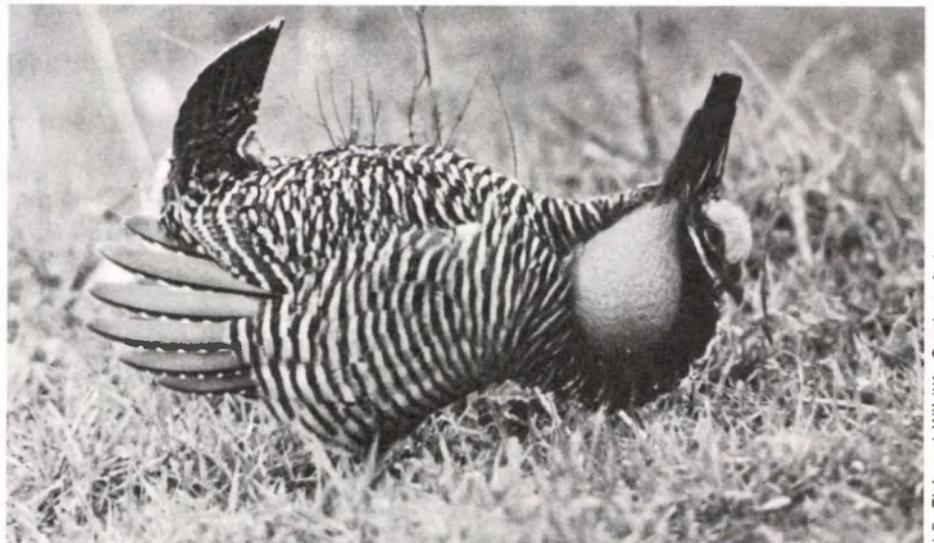
Two more recovery teams were appointed by the Service in February: one for the bald eagle (*Haliaeetus leucocephalus*), and the other for Attwater's greater prairie chicken (*Tympanuchus cupido attwateri*).

The Southeast Bald Eagle Recovery Team is the fourth Service-appointed bald eagle team to date. Only the Pacific team remains to be appointed. (Once this occurs there will be teams developing recovery plans for the bald eagle throughout the contiguous 48 States, where the species is protected by the Endangered Species Act of 1973.)

Under the leadership of Thomas M. Murphy, South Carolina Wildlife and Marine Resources Department, the

team includes: Ben Sanders, National Forests in North Carolina; Dr. Bill Robertson, Everglades National Park; Doris Mager, Florida Audubon Society; Wayne Dubuc, Morgan City, Louisiana; Steve Nesbitt, Florida Game and Fresh Water Fish Commission; and Fred Bagley, U.S. Fish and Wildlife Service.

The Attwater's Greater Prairie Chicken Recovery Team was originally under the direction of the State of Texas, but responsibility was recently turned over to the Service. On the team are: Dr. Nova Silvy, Leader, Texas A&M University; Dr. James Teer, Texas A&M University; Bill Brownlee, Texas Parks and Wildlife Department; and Wayne Shifflet, Attwater's Prairie Chicken National Wildlife Refuge.



Attwater's prairie chicken to benefit from recovery planning.

U.S. Fish and Wildlife Service photo

# Mexican Wolf

Continued from page 6

ico, and Texas, plus representatives from several zoos and universities, to discuss what can be done to save the Endangered wolf. Also present was a representative of the Direccion General de la Fauna Silvestre, Mexico's wildlife agency.

The Mexican wolf has been considered extinct in the United States for many years, and it is now believed that less than 50 individuals exist in the wild, in north-central Mexico. The wolf once roamed from southern Mexico to southern Arizona and New Mexico, and southwestern Texas. Animal control programs in Chihuahua and Durango, to protect cattle, are considered the principal reason for the species' decline (also the cause of its demise in the U.S.).

The Fauna Silvestre and the Service have identified the Mexican wolf as one of the top five Endangered species of mutual concern in Mexico and along our common border. For the past three years, the wolf has been receiving increased attention under the U.S.-Mexico Joint Committee on Wildlife Conservation.

"What we've got to do is establish a captive breeding program for the wolf," said Bob Stephens, Assistant Regional Director of the Service's Albuquerque Regional Office. "Our aim is to produce wolves for reintroduction to the wild, not just museum specimens for zoos. While this will take many years to accomplish, we must start our work now." Mexico has requested that the first

priority be given to reestablishing the wolf in preserves set aside in that country.

Those attending the meeting agreed that only Mexican wolves that have been certified as having been caught in the wild should be used for captive breeding. Existing zoo populations of this subspecies appear to be highly inbred and of questionable value for breeding stock. Eight wolves of known "pure"

lineage are in U.S. zoos, consisting of one female and seven males. Four of the males are litter mates of the lone captive female.

Meeting participants also agreed to the need for a recovery team for the Mexican wolf, to include wolf experts from the U.S. and Mexico who will make recommendations to the Service on captive breeding and future reestablishment of the animals in the wild.

## BOX SCORE OF SPECIES LISTINGS

Category	Number of Endangered Species			Number of Threatened Species		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Mammals .....	33	227	260	3	18	21
Birds .....	67	144	211	3		3
Reptiles .....	11	47	58	10		10
Amphibians .....	5	9	14	2		2
Fishes .....	29	10	39	12		12
Snails .....	2	1	3	5		5
Clams .....	23	2	25			
Crustaceans .....	1		1			
Insects .....	6		6	2		2
Plants .....	20		20	2		2
<b>Total .....</b>	<b>197</b>	<b>440</b>	<b>637</b>	<b>39</b>	<b>18</b>	<b>57</b>

Number of species currently proposed: 158 animals  
1,850 plants (approx.)

Number of Critical Habitats proposed: 73  
Number of Critical Habitats listed: 33  
Number of Recovery Teams appointed: 66  
Number of Recovery Plans approved: 20  
Number of Cooperative Agreements signed with States: 22

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### ENDANGERED SPECIES TECHNICAL BULLETIN



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