

ENDANGERED SPECIES

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

Delisting Proposed for Three Kangaroo Species

The red kangaroo (*Macropus rufus*), eastern gray kangaroo (*M. giganteus*), and western gray kangaroo (*M. fuliginosus*), which are now listed as Threatened species under the Endangered Species Act have been proposed for delisting (F.R. 4/8/83). A separate proposal published the same day would permit the continued importation into the United States of kangaroo hides and products even if the delisting is not approved. Kangaroos survive in large numbers, are considered pests in many agricultural regions, and are managed under conservation plans developed by the Australian States.

Background

All three species were originally listed as Threatened in 1974, and importation of hides and products was prohibited at that time. These actions were taken because: 1) there was no clear evidence that the overall take was being properly monitored and regulated; 2) no reliable kangaroo population estimates were available from most of the Australian States; and 3) the Australian Government had itself banned kangaroo exports because of its uncertainty about the situation. The listing and ban on imports into the U.S. was intended to remain in effect until the Australian States developed adequate conservation plans and demonstrated that commercial trade in kangaroo products would not jeopardize the species as a whole.

On April 29, 1981, the Service published a *Federal Register* notice acknowledging that the Australian Government had met both criteria, and that improved censusing techniques had provided an estimate in excess of 32 million adult kangaroos in New South Wales, South Australia, Western Australia, and Queensland. Accordingly, the import ban was lifted for a trial period of at least 2 years, although the three species remained listed as Threatened. On November 10, 1982, the Australian Government petitioned the Service to allow the continued import into the U.S. of kangaroo products after the close of the 2-year trial period, and to remove all three species from the U.S. List of Threatened and Endangered Species. The accompanying data were judged

sufficient to propose these actions.

The kangaroos were not delisted in 1981 in conjunction with the lifting of the import ban because the Service had lingering concerns about: 1) the susceptibility of these animals to overexploitation; 2) the difficulty in predicting the severity of damage to the populations that could be caused by natural or human-related factors; and 3) the adequacy of law enforcement capability. In its petition to delist, the Australian Government provided substantial information that these concerns may no longer be valid. Use of improved population monitoring techniques, including aerial surveys, indicate that lifting the U.S. import ban in 1981 did not have any measurable detrimental effects on the overall status of the species.

In each State where they occur, the three species of kangaroos may be taken only by professional shooters who work under permits issued by the appropriate State wildlife agency in accordance with a conservation plan. Also, the Service has accepted the Australian Government's assurance that its States employ a sufficient number of enforcement agents. The rate of annual culling rarely exceeds 10 percent of the kangaroo population, and is considered well below the danger point for species like these kangaroos that are capable of continuous breeding throughout the year. Without the culling of excessive kangaroos by professional shooters, ranchers and farmers suffering eco-

nommic damage from these animals might resort to the drastic methods used in the past, such as the poisoning of water holes, which would have an obvious harmful effect on kangaroos and other wildlife. It should be emphasized that none of the Australian States manage their kangaroos on a sustained-yield basis for commercial profit. All of the funds derived from the sale of kangaroo products overseas are used to pay for the services of the professional shooters. If the States did not have this income, they would have to turn control of kangaroos over to the private ranchers and farmers.

Public Comment Requested

Although the 30-day public comment period on the proposal to allow continued importation into the U.S. of kangaroo products expired on May 9, comments on the delisting proposal from any interested agencies, organizations, and individuals will be accepted until June 7, 1983. All submissions, preferably in triplicate, should be addressed to the Associate Director—Federal Assistance, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

At the request of the Animal Protection Institute of America, the Service is holding a public hearing on this proposed rule on Monday, June 6, 1983, beginning at 9:00 AM. The public hearing will be held in Room 8068 Main Interior Department Building, 18th and C Streets, NW, Washington, D.C.



Photo by Amos Eno

Three kangaroo species now listed as Threatened are proposed for delisting.



Regional Briefs

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

Region 2—Ben Robertson was selected as manager of the new San Bernardino National Wildlife Refuge (NWR)

in southeast Arizona, and reported for duty in early April. His background in fisheries biology made him a natural choice for manager of the first NWR established especially for Endangered fishes. The refuge will help conserve six native fish species in the Rio Yaqui system within Arizona and Mexico.

U.S. Fish and Wildlife Service Washington, D.C. 20240

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U.S. Fish and Wildlife Regions

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

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The Kemp's ridley sea turtle (*Lepidochelys kempii*) project, which is being carried out with the Mexico Secretariat of Fisheries, began April 12, and will continue through the nesting and hatching season (until August). The imprinting of hatchlings at Padre Island National Seashore by the National Park Service and headstarting of young turtles at the National Marine Fisheries Service lab in Galveston, Texas, will proceed.

The first litter of second generation Mexican wolves (*Canis lupus baileyi*) born in captivity was whelped on April 21 at the Rio Grande Zoo in Albuquerque. The litter was examined at 5 days of age, and consisted of five males and one female. It is anticipated that two more litters may be born at the other cooperating facilities in May.

Meanwhile, the first red wolves (*Canis rufus*) born in a public display facility were whelped at New Orleans' Audubon Park and Zoological Gardens on April 19. The litter's parents were both raised at the Red Wolf Recovery Program breeding facility near Tacoma, Washington, and shipped south in fall 1980. The successful breeding in 1983 is partially attributed to minor pen modifications made last year in an effort to make the wolves more comfortable in a public viewing situation.

Region 4—The ongoing review of the Ozark cavefish (*Amblyopsis rosae*) has found this species in 13 caves in 6 counties within the States of Arkansas, Missouri, and Oklahoma. The largest known population was surveyed, resulting in an estimate of 300 individuals in this cave. That cave population probably represented 60 percent of the total *A. rosae* population. The number of historic cave locations for the Ozark cavefish has been reduced by 40 percent, according to our current data, with most of the loss in Missouri. The remaining populations of *A. rosae* in Missouri are small, with never more than four cavefish observed in a cave when they are seen at all.

A very unusual discovery of a dead bald eagle (*Haliaeetus leucocephalus*) in an active nest near Lake Tohopekaliga was made by Florida eagle researcher and rehabilitator Doris Magor during an aerial survey in early March. With the help of the AAA Tree Service, Magor and FWS Special Agent Vance Eaddy recovered the carcass and submitted it for necropsy. The results revealed that the bird, an adult female carrying an egg, had suffered peritonitis and a gunshot wound to the head. Equally unusual was their observation that the dead bird's mate had apparently already acquired a new mate before the dead bird was removed. An egg found in the nest was left in the hope that the pair would incubate it. Although the newly

Continued on page 3

Regional Briefs

Continued from page 2

formed pair remained at the site, the egg eventually disappeared, and then a serious fire burned the tract around the tree. Fortunately, the nest tree itself was undamaged, and hopes are high for a successful nesting next season. Local media have covered the story closely, and a substantial reward fund had developed for information on the shooting, including voluntary donations by a local developer and a retiree in Maryland. FWS and Florida Game and Fresh Water Fish Commission agents are still hoping for new leads in the case.

Region 5—Pete Poulos, on temporary detail from the Washington Office to Region 5, has completed a preliminary draft recovery plan for the small whorled pogonia (*Isotria medeoloides*).

Peregrine falcons (*Falco peregrinus*) are nesting this year in New York, New Jersey, and Virginia. It is possible that peregrines are nesting also in New Hampshire.

The Chittenango Ovate Amber Snail Recovery Plan, which was completed by New York State biologists, has been signed by the Director. Recovery plans have been completed for the following species and are ready for Regional Director approval: flat-spined, three-toothed snail (*Triodopsis platysayoides*); Virginia fringed mountain snail (*Polygyriscus virginianus*); and Delmarva Fox Squirrel Recovery Plan (first revision).

Eaglets (*Haliaeetus leucocephalus*) from the Patuxent Wildlife Research Center have been placed successfully in active nests in New York, New Jersey, and Pennsylvania this spring. Eagles nesting at Bombay Hook (Delaware) NWR hatched their own young this year for the first time in 7 years.

Region 6—A Bald Eagle Management Plan for the Greater Yellowstone Ecosystem (GYE) has been drafted by the GYE Bald Eagle Working Team. The plan is not meant to replace the Pacific States Bald Eagle Recovery Plan, but rather to identify specific threats to the GYE bald eagle population and provide management recommendations at a detailed level.

Specifically, the plan summarizes data on population characteristics, life history, and habitat requirements, outlines population objectives, problems and strategies, as well as management recommendations; establishes priorities for research and management; and sets interim guidelines for nest site management.

The GYE includes habitat in portions of Wyoming, Idaho, and Montana. Over 8 governmental agencies with 20 administrative divisions are currently involved with research or management of the GYE bald eagle population. The GYE Bald Eagle Working Team was formed in December 1981 to aid in coordinating research and management of the population and thus turn a formerly fragmented approach into an effective program. The team includes representatives from the National Park Service, Wyoming Game and Fish Department, Idaho Fish and Game Department, Montana Department of Fish, Wildlife and Parks, the U.S. Forest Service, U.S. Fish and Wildlife Service, Montana State University, and the Bureau of Land Management.

The Interim Management Guidelines Committee appointed by the Black-footed Ferret Advisory Team (see February 1983 issue of the BULLETIN) met in January to begin drafting guidelines to manage black-footed ferrets (*Mustela nigripes*) near Meeteetse, Wyoming. Representatives from four oil/energy companies attended and agreed to develop a comprehensive long-term development plan for the Rose Creek Oil

Field that is in the area inhabited by ferrets.

The Black-footed Ferret Advisory Team (BFAT) held a 1-day meeting in March. The Wyoming Game and Fish Department (WGFD) announced that it is developing an operational protocol to be followed by researchers, photographers, or other parties working in areas inhabited by ferrets. Draft Interim Management Guidelines were reviewed. That evening, a town meeting was held to update the public on ferret research and management activities. Jack Turnell, manager of a ranch near Meeteetse, was presented with a plaque by the WGFD for his cooperation in efforts to conserve the black-footed ferret. Don Dexter, Director of WGFC, presented a diorama of a ferret in its native habitat to the Meeteetse community. The following day, Husky Oil Company gave BFAT members a tour of drilling and treater facilities so they could better understand the activities associated with oil field development and oil production. Husky Oil Company has voluntarily "shut-in" wells, for a period of 1 year, in areas inhabited by ferrets.

Region 7—Aleutian Islands NWR manager and Aleutian Canada Goose Recovery Team leader, Fred Zeillemaker, reports that six Aleutian Canada geese (*Branta canadensis leucopareia*), including one color-banded bird, were observed near Clam Lagoon, Adak Island, on March 16. Prior to this record, the earliest known spring arrival was April 25. This sighting makes for interesting speculation as weekly counts of the Aleutian Canada geese in California indicate that some of the geese may have departed their wintering grounds early. It is also possible that some geese may have wintered in the Aleutians or elsewhere in Alaska. Yet, with record snowfalls and accumulations at Adak and possibly throughout the Aleutians, it is unknown how the geese could have survived there through the winter.

CITES NEWS — May 1983

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

The Service's Wildlife Permit Office (WPO) functions as staff to the U.S.

Management Authority for CITES, assuring that wildlife and plants are exported or imported in compliance with laws for their protection and issuing permits for legal trade of these species. The Service's Office of the Scientific Authority (OSA) functions as staff to the U.S. Scientific Authority for CITES. OSA reviews applications to export and import species protected under CITES, reviews the status of wild animals and plants impacted by trade, makes certain findings concerning housing and care of protected specimens, and advises on trade controls.

Bobcat Findings Announced

Final findings on the export of bobcats (*Lynx rufus*) harvested during the 1982-83 season were approved and announced by the Service (F.R. 4/18/83). The findings and the guidelines upon which they are based became effective on April 25, 1983.

Export was approved from the following States and Indian Nations on the grounds that both Scientific Authority and Management Authority guidelines are met: Alabama, Arizona, Arkansas,

Continued on page 7

Listing and Recovery Priorities Proposed in Draft Guidelines

Draft guidelines have been proposed to determine priorities for species to be listed as Endangered or Threatened under the Endangered Species Act, and for development and implementation of recovery plans for species already listed under the Act (F.R. 4/19/83). Comments from the public are requested and must be received by June 20, 1983.

Background

In 1979, a report to Congress by the General Accounting Office (GAO) recommended that the Service officially adopt a listing priority system based primarily on consideration of degree of threat faced by the species. Later, the 1979 Amendments to the Endangered Species Act required that guidelines be established and published in the *Federal Register*. Guidelines were adopted by the Service in 1980, but not published in the *Federal Register*. This system was subsequently revised in 1981 so that priority for listing would be assigned within a given category of degree of threat so as to generally favor vertebrate animals ("higher life forms").

The 1982 Amendments to the Endangered Species Act retained the requirement that guidelines be published. The 1982 amendments, however, necessitate the revision of the present system, since they specifically prohibit adoption of any system that would give consideration to whether species were "higher or lower life forms." The April 9, 1983, proposal is intended to satisfy the requirements of the 1982 legislation.

Although the Service strongly encouraged the development of recovery plans, the preparation of recovery plans was elective until passage of the 1978 Amendments to the Endangered Species Act. This legislation required the development of a recovery plan for every listed species, unless such a plan would not promote the conservation of the species.

During fiscal year 1977, the Service developed a draft recovery priority system to be used as a guide for recovery planning and resource allocation. The 1979 GAO report recommended that this draft system be approved and implemented, and this system was adopted by the Service in 1980. It was subsequently revised to give priority to "higher life forms" as in the 1981 listing priority system. The recovery priority system now proposed deletes this preference for "higher life forms" and adds a new criterion on conflict, required by the 1982 amendments.

Listing Guidelines

Three criteria are used in the proposed guidelines to establish 12 priority

categories for species to be listed or reclassified from Threatened to Endangered as follows:

Priorities for Listing or Reclassification From Threatened to Endangered

Threat			
Degree	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies	3
	Potential	Monotypic genus	4
		Species	5
		Subspecies	6
Low to moderate	Imminent	Monotypic genus	7
		Species	8
		Subspecies	9
	Potential	Monotypic genus	10
		Species	11
		Subspecies	12

The first proposed criterion is the degree of threat. Species facing the greatest threats to their continued existence would receive highest listing priority. The second criterion, immediacy of threat, is intended to assure that species facing actual, identifiable threats be given priority over those having only potential threats. The third criterion is intended to assign resources on a priority basis to those species representing highly distinctive or isolated gene pools, as reflected by the taxonomic level at which they are recognized. (The more isolated or distinctive a gene pool, the greater contribution its conservation is likely to make to the maintenance of ecosystem diversity.)

In accordance with Section 4(c)(2) of the Act, the Service currently reviews listed species every 5 years to identify any that might qualify for removal or reclassification. The proposed guidelines would employ two criteria to establish six priority categories for deleting or reclassifying species from Endangered to Threatened when evidence is available to warrant such actions.

Priorities for Delisting and Reclassification From Endangered to Threatened

Management Impact	Petition Status	Priority
High	Petitioned action	1
	Unpetitioned action	2
Moderate	Petitioned action	3
	Unpetitioned action	4
Low	Petitioned action	5
	Unpetitioned action	6

Priority considerations would concern whether or not protection under the Act is any longer necessary and whether the listing causes an unwarranted management burden or unnecessarily restricts human activities. (Inaccurate listing could divert resources from more appropriate activities.) Secondly, the system takes into account whether or not the Service has been petitioned to remove the species from the list or reclassify it. This consideration is also intended to give highest priority to species whose delisting is likely to remove the greatest impacts on known activities inasmuch as such species would also be likely to be subjects of petitions. The decision regarding whether a species will be retained on the lists or in the Endangered category, however, must be based on the considerations contained in Section 4(a)(1) of the Act and 50 CFR 424.11.

Recovery Guidelines

The proposed recovery guidelines use four criteria to establish 18 priority categories as follows:

Recovery Priority

Degree of Threat	Recovery potential	Taxonomy	Priority	Conflict		
High	High	Monotypic genus	1	1C		
		Species	2	2C		
		Subspecies	3	3C		
	Low	Monotypic genus		4	4C	
			Species	5	5C	
			Subspecies	6	6C	
Moderate	High	Monotypic genus	7	7C		
		Species	8	8C		
		Subspecies	9	9C		
	Low	Monotypic genus		10	10C	
			Species	11	11C	
			Subspecies	12	12C	
	Low	High	Monotypic genus	13	13C	
			Species	14	14C	
			Subspecies	15	15C	
		Low	Monotypic genus		16	16C
				Species	17	17C
				Subspecies	18	18C

Continued on page 7

RULEMAKING ACTIONS — May 1983

Disease Threatens Tree; Endangered Status Proposed

An evergreen tree, *Torreya taxifolia* (Florida torrey), which is endemic to the Apalachicola River area in Florida and Georgia, was proposed as Endangered by the Service (F.R. 4/7/83). The primary threat to this species is a fungal disease, although past habitat reductions have occurred.

A conifer reaching 18 meters tall, *Torreya taxifolia* was first discovered in 1835 and formally described in 1838 (Arnott, 1838). This species and other endemics of the Apalachicola River system have received much attention from scientists and local residents. The entire Apalachicola River bluff system today is an extremely diverse and unique ecosystem.

Torreya taxifolia has whorled branches and stiff, sharp-pointed, needle-like leaves. The trees are conical in nature. The leaves of the tree have a pungent or resinous odor when crushed, thus one common name, "stinking cedar." A similar coniferous species of the same plant family (Taxaceae), *Taxus floridanus* (Florida yew), also occurs in the Apalachicola River area. This small tree, which is easily distinguished from *Torreya taxifolia*, was also initially recommended for listing as Endangered, under the Endangered Species Act; recent studies (1982), however, indicate it is presently less vulnerable than previously thought.

Background

Actions leading to Federal protection for the Florida torrey began in 1973 with the inclusion of plants in the Act. Section 12 of the 1973 Act directed the Smithsonian Institution to compile a report on Endangered, Threatened, and extinct plant species. The resulting 1975 report included *Torreya taxifolia*; it was treated as a petition by the Service, and published as a notice of review on July 1, 1975. This action was followed on June 16, 1976, by a proposal to list a number of plants, including *Torreya taxifolia*.

Due to subsequent requirements of the 1978 Amendments to the Endangered Species Act, the 1976 proposal was withdrawn. The plant has now been repropoed based on sufficient new information. A 1981 report submitted by the Georgia Plant Program, investigations carried out by Service botanists during the winter of 1981, and a contract completed during 1982 on *Torreya taxifolia* and *Taxus floridana* have provided significant new data.

Since 1962, natural populations of *Torreya taxifolia* have been drastically

reduced or eliminated due to a fungal disease. The disease causes necrosis of the needles and stems and severe defoliation. Treatment through the application of fungicides seems possible; however, extensive research is needed to determine appropriate treatments and to investigate the possibility of breeding trees resistant to the disease. All that remains in nature are root sprouts, reaching less than 3 meters in height. Cultivated, unaffected specimens that exist in various botanical gardens can provide seeds and material for future recovery efforts.

Torreya taxifolia occurs in the ravines along the eastern side of the Apalachicola River from Lake Seminole in Georgia to Bristol, Florida. One population also occurs on the margin of Dog Pond (Florida) that lies to the west of the Apalachicola River. The Georgia population occurs entirely on public land administered by the U.S. Army Corps of Engineers (ACE). The ACE resource manager of this area is sensitive to the need for proper management and protection of the species. Management and protection efforts must continue and should not conflict with the present recreational use of the area.

The Florida populations occur on a State park, a city park, and privately owned lands. Both the State and city parks provide some protected habitat



A root sprout of *Torreya taxifolia*, the Florida torrey. All mature, viable trees are located in botanical gardens and arboreta.

for the species; the majority of the area occupied by the tree, however, is in private ownership where no protective provisions exist. An ACE planned impoundment near Blountstown, Florida, is not expected to affect this species; however, proper planning for the protection of this species will need to be part of all ACE and any other future Federal projects.

Torreya taxifolia is already protected by Florida Law, Chapter 65-426, Section 865.06, and by the Georgia Wild Flower Preservation Act of 1973. The Endangered Species Act would offer additional protection through the recovery process and interstate and international trade prohibitions.

Since all mature viable trees are located in botanical gardens and arboreta, the Service has decided that it would not be prudent to determine Critical Habitat for *Torreya taxifolia* at this time. After the disease has been overcome, recovery efforts would address reintroduction of the species into the wild, and Critical Habitat could be determined then, if found prudent to do so.

If made final, this rule will require Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species. The regulations pertaining to Endangered plants are found at 50 CFR 17.61. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1903).

Comments or suggestions from the public, concerned governmental agencies, the scientific community, industry, private interests, or any other interested party concerning any aspect of this proposed rule are requested. They should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, 2747 Art Museum Drive, Jacksonville, Florida 32207. Comments from all interested parties must be received by June 6, 1983. The deadline for public hearing requests was May 23, 1983.

Comment Period Reopened On Ash Meadows Rule

The comment period on a proposal of Endangered status and Critical Habitat for the Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*) and the Ash Meadows speckled dace (*Rhinichthys osculus nevadensis*) was reopened by the Service (F.R. 5/6/83). The same rule announced a public hear-

Continued on page 8

San Joaquin Kit Fox Recovery Plan Approved

The San Joaquin kit fox (*Vulpes macrotis mutica*) is a small, nocturnal carnivore that inhabits semi-arid grasslands of the San Joaquin Valley, California. Adult fox stand at about 10 to 12 inches at the shoulder and weight about 5 pounds. Conspicuous traits include large ears, covered on the inner side by dense, white hairs, and a long cylindrical tail that is light-buff to buffy gray in color with a black tip.

Historically the San Joaquin kit fox was a common resident in the dry plains

of the San Joaquin Valley, from as far north as Tracy, San Joaquin County, on the west side of the valley, and near La Grange, Stanislaus County, on the east side of the valley, south to Kern County. Starting in the early 1900's, however, agricultural, industrial, and urban developments brought about rapidly increasing rates of habitat loss that led to population declines.

The greatest known threat to the San Joaquin kit fox is loss of habitat. Other factors which contribute to its decline

are pest control programs, shooting, trapping, road kills, and offroad vehicles.

The San Joaquin kit fox is listed as Endangered under the Endangered Species Act of 1973, as amended, and is also protected as a "rare" species under the California Endangered Species Act of 1970. The Service approved the San Joaquin Kit Fox Recovery Plan on January 31, 1983.

The recovery plan proposes a program that, when implemented, will halt the decline in populations and ultimately lead to reclassification from Endangered to Threatened, and possibly to eventual delisting of the subspecies. Since little is known about the population size or habitat necessary for delisting, the plan places high priority on studies to determine these variables.

In general, the plan is based on several overall premises regarding current use and ownership of the land as well as known current distribution of the kit fox. Realistic goals are established that incorporate a blend of actions that emphasize management and restoration of existing public lands in addition to specific protection or acquisition of some areas.

The San Joaquin Valley is one of the most important world centers for both agriculture and petroleum development, making both the surface and subsurface potential of almost any parcel of land quite valuable economically. To propose curtailment of development or the purchase of large blocks of land for the conservation of the kit fox would be unrealistic.

It is believed that suitable populations of San Joaquin kit fox can coexist with some activities, such as oil and gas development, provided coordination and cooperation exists between developers and regulatory agencies. The limited information on adaptability of the species indicates that kit fox are compatible with moderate, well regulated petroleum activities, and controlled grazing as long as consideration

Continued on page 7



EG&G Photo by Thomas P. O'Farrell

San Joaquin kit fox (*Vulpes macrotis mutica*) have an average body length of 20 inches and stand between 10 and 12 inches at the shoulder.



1. Santa Barbara
2. San Luis Obispo
3. Monterey
4. San Benito
5. Santa Cruz
6. San Mateo
7. Santa Clara
8. Alameda
9. Contra Costa
10. San Joaquin
11. Stanislaus
12. Merced
13. Madera
14. Fresno
15. Tulare
16. Kings
17. Kern

Proposed zonation of San Joaquin kit fox range for use in apportioning Recovery Plan efforts and funds. Zone 1 (crosshatched) to receive greatest efforts, Zone 2 (hatched) intermediate efforts, and Zone 3 (open) modest effort.

Copies of this plan, and of all approved recovery plans, will be made available for purchase from the Fish and Wildlife Reference Service, Unit j, 3840 York Street, Denver, Colorado 80205-3536 (800/525-3426). A 4-to-6 month printing time must be allowed following the date a recovery plan is approved by the Director, before copies may be available. A delay should be expected when ordering newly approved plans.

KIT FOX

Continued from page 6

is given to minimizing habitat destruction and loss of prey and denning sites.

Sufficient Federal legislation exists already to support the involvement of several agencies in efforts to aid recovery of the subspecies; no new legislation will be needed. What will be required to implement the recovery plan is the active involvement of several Federal and State agencies in a cooperative effort.

The plan recommends that the known range of the kit fox be divided into three zones and that efforts to implement the plan be greatest in Zone 1, intermediate in Zone 2, and modest in Zone 3 (See accompanying map). The zones have been assigned the various degrees of recovery efforts for the following reasons:

Zone 1 contains the focus of the remaining kit fox population located in western Kern and eastern San Luis Obispo counties. It also contains the largest contiguous parcel of relatively undisturbed but manageable Federal land. The land is above the existing irrigation canals so that heaviest demands on the remaining land are for petroleum

developments and grazing rather than as cropland.

Zone 2 includes the remaining concentrations of the kit fox. Most of the desirable areas in this zone are in the foothills or other undisturbed wildlands on the periphery of agricultural developments. Because most of this area is privately owned, implementation of the plan here will be less than in Zone 1.

Zone 3 contains low density populations of the kit fox. Also, there is little public land in this zone.

Federal agencies assigned various areas of responsibility for implementation of the plan are the Fish and Wildlife Service, Bureau of Land Management, Geological Survey, Department of Energy, Bureau of Reclamation, Environmental Protection Agency, U.S. Navy, U.S. Army, and Soil Conservation Service. Involved State agencies are the Department of Fish and Game, Department of Parks and Recreation, Department of Water Resources, Division of Oil and Gas, and California Energy Commission.

Copies of the San Joaquin Kit Fox Recovery Plan are available from the Fish and Wildlife Reference Service. For more information on the plan, contact the Portland Regional Director (see page 2 for address).

Regulations on Subsistence Take of Green Turtles Under Review

In response to requests from the Governments of Guam and the State of Hawai'i, the National Marine Fisheries Service (NMFS) has announced its intent to review the special regulations governing the subsistence take of green turtles (*Chelonia mydas*) in portions of the species' range where it is listed as Threatened (F.R. 4/20/83). Taking of these sea turtles for subsistence purposes currently is allowed by residents of the Trust Territory of the Pacific Islands, and NMFS will be determining whether the existing provisions should be modified and whether subsistence taking should be allowed in other areas of the Central and Western Pacific Ocean.

Responsibility for listed sea turtles is shared between the Departments of Commerce (NMFS) and the Interior (Fish and Wildlife Service). NMFS manages sea turtles in their marine environment. When the green turtle was listed on July 28, 1978, an exception to the general prohibitions on taking was granted by NMFS under 50 CFR Part 227 Subpart D for Trust Territory residents, providing that the take was for personal use and that the turtles were taken at sea. This exception was allowed after the Government of the Trust Territory of the Pacific Islands documented the traditional use of green turtles by native residents. The exception was not extended to other areas of the Central and Western Pacific because NMFS believed a complete prohibition was needed in those areas to effectively control commercial trade in the species. Also, evidence was presented that the green turtle population in Hawai'i had declined.

Residents and the Governments of Guam and the State of Hawai'i have requested NMFS to consider expanding the rule allowing subsistence taking. NMFS has agreed to review the special regulations, and is asking for comments and information from all interested agencies, organizations, and individuals. Responses to the notice should be addressed to Mr. Alan W. Ford, Southwest Regional Office, National Marine Fisheries Service, 300 South Ferry Street, Terminal Island, California 90731 by June 20, 1983. Public meetings on the review were scheduled for May and early June in Hawai'i, Guam, the Northern Mariana Islands, and American Samoa.

Guidelines

Continued from page 4

The first proposed criterion is the degree of threat. Thus the species with the highest degree of threat have the highest priority for preparation and implementation of a recovery plan. The second criterion concerns the degree of recovery potential; those species with high recovery possibilities within each "degree of threat" category would be given high recovery priority. The third criterion is intended to devote resources on a priority basis to those species representing highly distinctive or isolated gene pools; taxa that are most genetically distinct would receive priority within any given category of threat. As with the third criterion, the fourth is directly responsive to the requirements of the 1982 amendments to the Act. The fourth criterion assigns priority to recovery planning depending upon whether or not the species is in conflict with construction or other development projects or other forms of economic activity. Any listed species or subspecies, lacking a recovery plan, and identified as being or having a reasonable potential for being in conflict with construction or a development project, would qualify for the conflict column of the recovery priority matrix.

The Service recognizes that it is necessary to assign priorities to listing, delist-

ing and recovery actions in order to make the most appropriate use of limited resources. Since the proposed priority systems are based on factors that are subjective to some degree, they must be viewed as guides and should not be looked upon as inflexible frameworks for determining resource allocations.

All comments on these proposed guidelines should be sent to the Associate Director—Federal Assistance, U.S. Fish and Wildlife Service, Washington, D.C. 20240, Attention: Priority Guidelines. Comments must be received by June 20, 1983.

BOBCAT

Continued from page 3

California, Colorado, Florida, Georgia, Idaho, Kansas, Klamath Tribe, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Navajo Nation, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Carolina, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Comments on the proposed findings and the criteria for Scientific Authority advice are summarized and discussed in the April 18, 1983, rulemaking. Please refer to *Federal Register*, Vol. 48, No. 75, pp. 16494-16498.

ASH MEADOWS

Continued from page 5

ing that was held in Amargosa, Nevada, May 26, 1983.

The reopened comment period will close on June 2, 1983. Comments should be addressed to the Regional Director, U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 N.E. Multnomah Street, Portland, Oregon 97232.

Both fishes are endemic to the desert wetland ecosystem of Ash Meadows, Nevada, and are threatened by large scale residential/agricultural development. Both have been temporarily listed as Endangered in two emergency rules (F.R. 5/10/82 and F.R. 1/5/83). Simultaneous with the publication of the second emergency rule, the Service proposed listing the two fishes on a permanent basis and making a final determination of their Critical Habitat. An earlier hearing on this proposal was held in Las Vegas, Nevada, on February 11, 1983.

BOX SCORE OF LISTINGS/RECOVERY PLANS

Category	ENDANGERED			THREATENED			SPECIES* TOTAL	SPECIES HAVING PLANS
	U.S. Only	U.S. & Foreign	Foreign Only	U.S. Only	U.S. & Foreign	Foreign Only		
Mammals	15	18	223	3	0	22	281	18
Birds	52	14	144	3	0	0	213	32
Reptiles	8	6	55	8	4	0	81	6
Amphibians	5	0	8	3	0	0	16	2
Fishes	29	4	11	12	0	0	56	20
Snails	3	0	1	5	0	0	9	3
Clams	23	0	2	0	0	0	25	0
Crustaceans	2	0	0	1	0	0	3	1
Insects	7	0	0	4	2	0	13	3
Plants	55	2	0	9	1	2	69	7
TOTAL	199	44	444	48	7	24	766	92**

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

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

Number of species currently proposed: 36 animals
7 plants

Number of Critical Habitats listed: 55
Number of Recovery Teams appointed: 69
Number of Recovery Plans approved: 86
Number of Cooperative Agreements signed with States:

38 fish & wildlife
11 plants

April 30, 1983

The March 1983 BULLETIN story on the black-footed ferret contained a summary of research projects being conducted by various State wildlife agencies under Section 6 endangered species grants from the Service. Inadvertently left out was a \$20,000 research project on the ferret to be conducted this fiscal year by the New Mexico Game and Fish Department with Section 6 carryover funds.

New Publication

The IUCN Invertebrate Red Data Book, the latest in the revised red data book series, is now available for \$20.00. It was compiled jointly by S.M. Wells, R.M. Pyle, and N.M. Collins and illustrated by S.A. Hughes. This innovative work includes detailed reviews of over 200 taxa and 50 illustrations. A particular effort has been made in this volume to emphasize the importance of invertebrates in ecological processes and as a living resource of benefits to humankind.

In the USA, Canada, Latin America, and the Caribbean orders should be placed with: UNIPUB, Box 433, Murray Hill, New York, NY 10016, U.S.A. Orders from outside the Americas should be placed with IUCN Conservation Monitoring Centre, 219(c) Huntingdon Road, Cambridge CB3 0DL, England or IUCN Publications, Avenue du Mont-Blanc, 196 Gland, Switzerland. From Cambridge the price is L12 (US \$20) plus L2 (US \$3) postage and packing per volume surface mail (air-mail by request only); from Switzerland, L12 (US \$20) per volume plus 10% of total purchase price for surface mail, 30% for airmail.

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ENDANGERED SPECIES

Technical Bulletin

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