

ENDANGERED SPECIES

Technical Bulletin

Department of the Interior, U.S. Fish and Wildlife Service, Washington, D.C. 20204

Habitat Loss Threatens Two Midwestern Plants

Two species of plants endemic to small areas of the northern midwest were proposed by the Fish and Wildlife Service during December 1987 for listing as Threatened. Both grow only along lakeshores, lands that are in demand for development. If the proposals are made final, Endangered Species Act protection will be extended to the following:

Fassett's Locoweed (*Oxytropis campestris* var. *chartaceae*)

A perennial herb native to central Wisconsin, Fassett's locoweed is a member of the pea family (Fabaceae). It produces a rosette of pinnately compound leaves clustered at the base of the stem and attractive rose-purple flowers. The total known population of about 4,500 plants is concentrated at 6 sites in Portage and Waushara Counties.

Several historical populations of Fassett's locoweed were lost to lakeside construction and other modifications of the habitat. All of the remaining sites are on privately owned land open to additional development. Because of the species' vulnerability, the Service has proposed listing Fassett's locoweed as Threatened (F.R. 12/4/87).

Dwarf Lake Iris (*Iris lacustris*)

As suggested by its common name, this plant is small—less than 6 inches high—and grows along lakeshores. (It also



dwarf lake iris

occurs in the partially shaded areas of upper beach habitat.) Currently, about 70 known sites are found on the northern shores of Lake Michigan and Huron in Wisconsin and Michigan, and there are about a dozen more sites in Ontario, Canada.

Construction of lakeside housing and other development, which resulted in major losses of historical habitat, continues to be a threat. Most sites of the dwarf lake iris are on private property and are vulnerable to change. However, one dwarf lake iris site is on Federal land, a

U.S. Coast Guard lighthouse station in Michigan, and several are on protected State lands.

The Service has proposed to list the dwarf lake iris as Threatened (F.R. 12/4/87). A Federal listing under the Endangered Species Act would complement and reinforce the protection already given the species by Wisconsin and Michigan. Potential recovery activities include management of the habitat to reduce competition from other plants and transplanting irises to previously occupied sites (if any are found suitable).

Photo courtesy of Matthaei Botanical Gardens, University of Michigan

Alabama Cavefish, Now Considered Nearer to Extinction, is Proposed for Reclassification

The Alabama cavefish (*Speoplatyrhinus poulsoni*) is a small, blind, colorless fish known only from Key Cave in Lauderdale County, Alabama. It was listed by the Fish and Wildlife Service as a Threatened species in 1977. Since that time, studies of 120 other caves in northeastern Alabama failed to locate any other *S. poulsoni* sites. The only known population is estimated to number fewer than 100 individuals, and its aquatic habitat is believed to be vulnerable to sewage and pesticide pollution. Because the Alabama cavefish is now considered in

immediate danger of extinction, the Service has proposed to reclassify it from Threatened to the more critical category of Endangered (F.R. 12/4/87).

The quality of Key Cave's environment is directly influenced by what takes place above-ground in the drainage or recharge area. Contaminants can enter the cave through sinkholes or other water collecting depressions. Within the probable recharge area are two activities that could affect groundwater quality: 1) the use of pesticides and other agricultural chemi-

cals on row crops and 2) a sewage sludge disposal operation developed by the Tennessee Valley Authority and operated intermittently by the City of Florence, Alabama.

The Fish and Wildlife Service is working with the Environmental Protection Agency in an attempt to control possible sources of water pollution in the area. In the meantime, however, the Service believes that the category of Endangered represents the true status of the Alabama cavefish.



Regional News

Regional endangered species biologists have reported the following news and activities for December:

Region 1—An Area of Critical Environmental Concern designation has been

recommended for a 40-acre site at Walker Flat near McMinnville, Oregon. Such a designation would authorize the Bureau of Land Management to develop an interim habitat management plan for Nelson's

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U.S. Fish and Wildlife Service Regions

Region 1: California, Hawaii, Idaho, Nevada, Oregon, Washington, and Pacific Trust Territories. **Region 2:** Arizona, New Mexico, Oklahoma, and Texas. **Region 3:** Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. **Region 4:** Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Puerto Rico and the Virgin Islands. **Region 5:** Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia and West Virginia. **Region 6:** Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming. **Region 7:** Alaska. **Region 8:** Research and Development nationwide.

The ENDANGERED SPECIES TECHNICAL BULLETIN is published monthly by the U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240.

checker-mallow (*Sidalcea nelsoniana*), a Category 2 candidate for a future listing proposal.

The Fish and Wildlife Service's Great Basin Complex Station at Reno, Nevada, met with the Bureau of Land Management and local landowners at Condor Canyon in Nevada's Lincoln County to observe grazing practices for effects on Big Spring spinedace (*Lepidomeda mollispinis pratensis*) habitat. It was found that current grazing practices in the area are not significantly affecting spinedace habitat. Next, there was an inspection of a proposed desert tortoise (*Xerobates agassizii*) relocation study site near Pahrump. The experimental project would involve moving tortoises away from an area near Las Vegas that is subject to being subdivided and developed.

Recently the Laguna Niguel Office issued a "no-jeopardy" Biological Opinion on the Devers Palo Verde-500 KV transmission line for effects on the Coachella Valley fringe-toed lizard (*Uma inornata*) and Yuma clapper rail (*Rallus longirostris yumanensis*). Compensation for disturbance of 12.8 acres in the Coachella Valley fringe-toed lizard mitigation fee area was in the form of a payment to The Nature Conservancy, as provided for in the Habitat Conservation Plan.

Recent research, using implanted radio transmitters, indicates that the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), once considered to be strictly an aquatic species, ranges at least 175 yards away from wetlands into adjacent upland habitats. In an ongoing study, at least six snakes were observed using rodent burrows on dry hillside grasslands, presumably as hibernation sites for the winter. These findings will be very timely for addressing effects from a number of upcoming major projects.

Sixty-five light-footed clapper rail (*Rallus longirostris levipes*) nesting platforms will be constructed at Point Magu, Carpinteria Marsh, and the Kendall-Frost Reserve in California. These platforms are designed to ride up and down with the tides to minimize possible flooding and loss of the nests. Moreover, they can be placed to reduce the likelihood of egg predation by land-based predators. Similarly designed platforms, recently installed at the Anaheim Bay National Wildlife Refuge, were used extensively by rails during the 1986 breeding season.

Region 2—Aerial surveys in early December confirmed that 134 whooping cranes (*Grus americana*) had reached

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Regional News

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Texas. The 109 adults and subadults that departed northward in April and the 25 young that fledged in Canada had all returned to their southern wintering areas. One hundred and thirty-three of the birds were on the Texas coast and one juvenile was in the Texas panhandle. The last time all spring migrants returned safely in fall was in 1976, when the population (57) was less than half its current size. The Rocky Mountain whooping crane population is estimated at 18-20 birds wintering in New Mexico and Mexican State of Chihuahua.

In the summer of 1986, plant, animal, and sediment samples were collected at the three main refuges used by the Rocky Mountain whoopers. The samples from Bosque del Apache (New Mexico), Alamosa/Monte Vista (Colorado), and Grays Lake (Idaho) National Wildlife Refuges are to be analyzed for contaminants. Only the data from Alamosa/Monte Vista are available at this time. Heavy metals (chromium, arsenic, mercury, copper, zinc, and lead) were unusually high in some samples. For example, while copper levels of 21 to 40 parts per billion are toxic to bluegills (*Lepomis macrochirus*), levels sampled in carp (*Cyprinus carpio*) at the refuge were 564 parts per billion. These high levels in the environment are believed to be a result of almost a century of silver and gold mining activities in the mountains surrounding the San Luis Valley where the Alamosa/Monte Vista Refuge is located. Whooping cranes spend 6 to 12 weeks within the valley each year.

On November 28 and 29, nine Sonoran pronghorn (*Antilocapra americana sonoriensis*) were captured and radio-collared in southwestern Arizona. A net was fired from a gun in a low-flying helicopter to catch the animals. Blood samples, as well as other data, were collected before the pronghorn were released. The radio-collared animals will be monitored bi-weekly from the air and weekly from the ground. Funding for this study was obtained by the Arizona Game and Fish Department.

Region 4—Range extensions were reported recently for two listed Florida plant species. Carter's mustard (*Warea carteri*) has been sighted on a county recreational complex on a barrier island near Melbourne. The site is oak scrub. This is the first time this Endangered species has been found outside Polk and Highlands Counties in central Florida since the 1930's. The discovery shows that special searches for the plant during its fall flowering season are probably justified. A second report, not yet verified but from an

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Crescentia portoricensis, or Higuero de Sierra, is an evergreen, vine-like shrub or small tree endemic to the mountains of southwestern Puerto Rico. Only 42 individuals of this species are known to survive. Although all six known populations are on forest lands owned and managed by the Commonwealth of Puerto Rico, deforestation of surrounding lands has led to erosion and flash flooding of *C. portoricensis* habitat. A proposed U.S. Army Corps of Engineers flood control project may add to this threat if it includes an impoundment that floods *C. portoricensis* habitat in Maricao Commonwealth Forest.

The Service proposed January 14, 1987, to list *C. portoricensis* as Endangered (see story in BULLETIN Vol. XII No. 2), and the final rule was published in the December 4, 1987, *Federal Register*. This species is now eligible for all protection and recovery benefits authorized for listed plants under the Endangered Species Act. In accordance with Section 7 of the Act, if formal planning for the flood control project is initiated, the Corps of Engineers will consult with the Service on ways to avoid jeopardizing *C. portoricensis*.

Amistad Gambusia is Removed from List

The Amistad gambusia (*Gambusia amistadensis*), a small fish known only from a single Texas spring, was removed by the Service from the Federal list of Endangered wildlife on December 4, 1987. All available data indicate that this species is extinct.

Goodenough Spring, a tributary of the Rio Grande in Val Verde County, is the only site at which the Amistad gambusia has ever been found, despite extensive searches of other springs in the region.

This fish was not recognized as a distinct species until well after its required spring habitat was permanently inundated by the rising Amistad Reservoir in 1968. By the time the species was formally described (1973), the Amistad gambusia survived only in captive propagation facilities. Since that time, all known captive populations have died or have been eliminated by hybridization with, or predation by, the related but common mosquitofish (*Gambusia affinis*).

Service Decides Not to List Spotted Owl at This Time

The Fish and Wildlife Service has announced its decision that listing of the northern spotted owl (*Strix occidentalis caurina*) as Threatened or Endangered is not warranted at this time. This finding came in response to listing petitions that cited habitat destruction from logging as a threat to the owl's survival. A formal notice of the Service's decision was published in the December 23, 1987, *Federal Register*.

An estimated 4,000–6,000 individual birds occur through western Washington and Oregon to northern California. Most have been found in old-growth or mature forests. Approximately 70 percent of suitable northern spotted owl habitat is administered by the U.S. Forest Service, which has signed an agreement with the Fish and Wildlife Service for coordinated research and monitoring. This agreement requires production of an annual report by both agencies on the owl's status. The Fish and Wildlife Service hopes to establish similar interagency agreements with the National Park Service and Bureau of Land Management, which administer other areas of northern spotted owl habitat.

The Forest Service is preparing a final Supplemental Environmental Impact Statement concerning its management of the northern spotted owl. The preferred alternative identified through this document will guide the agency's owl management efforts. Individual forest plans are to be brought into compliance with the preferred alternative.

The Fish and Wildlife Service has hired a person to coordinate all of the agency's activities regarding the spotted owl. His duties will include reviewing draft forest management plans for spotted owl concerns and pursuing (and implementing) additional interagency agreements.

Correction

Both photographs of the Hinckley oak (*Quercus hinckleyi*) in BULLETIN Vol. XII No. 10 should have been credited to A.M. Powell. We regret the error.

Regional News

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extremely reliable source, indicates that the Miccosukee gooseberry (*Ribes echinellum*) is present on private land in Gadsden County, Florida. This would be the third known locality for this Threatened plant, which also occurs at Lake Miccosukee in Jefferson County, Florida, and at Stevens Creek in South Carolina.

The population of Endangered mussels in the Tombigbee River continues to decline. A recent survey, conducted at the Gainesville Bendway in Alabama, yielded only a few scattered common mussel species. None of the four listed species were found. Dr. Paul Yokley, who conducted the survey, reported that the water has too little flow, is accumulating some silt, and possibly does not provide suitable habitat for host fish species. A gradual 4-year accumulation of sediment also threatens mussel populations on the East Fork. The siltation appears to be caused by the alteration of water flows from Bull Mountain Creek by the Tennessee-Tombigbee Waterway. Immediate action is warranted on both the East Fork and the Gainesville Bendway. The entire population of Curtus' mussel (*Pleurobema curtum*) is restricted to the East Fork, and the Gainesville Bendway is the only known remaining habitat for Marshall's mussel (*Pleurobema marshalli*). Also, the loss of the Gainesville Bendway and the East Fork would confine the stirrup shell (*Quadrula stapes*) and penitent mussel (*Epioblasma penita*) to the Sipsey and Buttahatchie Rivers, respectively.

The American Cave Conservation Association, in cooperation with the city of

BOX SCORE OF U.S. LISTINGS AND RECOVERY PLANS								
Category	ENDANGERED			THREATENED			SPECIES* TOTAL	SPECIES WITH PLANS
	U.S. Only	U.S. & Foreign	Foreign Only	U.S. Only	U.S. & Foreign	Foreign Only		
Mammals	28	19	240	3	3	23	316	23
Birds	60	15	146	7	3	0	231	55
Reptiles	8	7	59	14	4	14	106	21
Amphibians	5	0	8	4	0	0	17	6
Fishes	39	4	11	25	6	0	85	45
Snails	3	0	1	5	0	0	9	7
Clams	28	0	2	0	0	0	30	21
Crustaceans	5	0	0	1	0	0	6	1
Insects	8	0	0	7	0	0	15	12
Plants	134	6	1	30	3	2	176	56
TOTAL	318	51	468	96	19	39	991	263 **

Total U.S. Endangered 369
 Total U.S. Threatened 115
 Total U.S. Listed 484

*Separate populations of a species that are listed both as Endangered and Threatened are tallied twice. Those species are: the leopard, gray wolf, bald eagle, piping plover, roseate tern, Nile crocodile, green sea turtle, and olive ridley sea turtle. For the purposes of the Endangered Species Act, the term "species" can mean a species, subspecies, or distinct vertebrate population. Several entries also represent entire genera or even families.

**More than one species are covered by some recovery plans, and a few species have separate plans covering different parts of their ranges.

Number of Recovery Plans approved: 223
 Number of species currently proposed for listing: 17 animals
 32 plants

Number of Cooperative Agreements signed with States and Territories: 51 fish & wildlife
 36 plants

December 31, 1987

Horse Cave, Kentucky, and others interested in cave conservation have obtained a \$250,000 grant to begin work on establishing a national center on cave and karst resources. The Fish and Wildlife Service will actively participate in the center's

development. The museum associated with the center will provide an excellent opportunity for the Service to present information on, and gain public support for, listed cave-dependent organisms.

January 1988

Vol. XIII No. 1

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