

During April and May 2000, the Fish and Wildlife Service and National Marine Fisheries Service (NMFS) published the following Endangered Species Act (ESA) listing actions in the *Federal Register*. The full text of each proposed and final rule can be accessed through our website:

<http://endangered.fws.gov>.

Proposed Rules

Mississippi Gopher Frog The Service proposed on May 23 to list the Mississippi population of the dusky gopher frog (*Rana capito sevosa*) as endangered. Historically, this distinct population segment existed in the longleaf pine forests of the lower coastal plain from east of the Mississippi River in Louisiana to the Mobile River delta in Alabama. It has not been seen in Louisiana since 1962 or in Alabama since 1922. Today, only 100 adult frogs remain, all in one pond in Harrison County, Mississippi. Biologists believe loss and degradation of habitat is the primary reason the species has declined.

The Mississippi gopher frog is a mid-sized stocky frog that reaches 3 inches (7.5 centimeters) in length. It ranges in color from black to brown to gray. The frog's habitat includes both longleaf pine forest and isolated, temporary breeding sites in forested landscapes. Adult frogs spend most of their lives underground in forests with an open canopy and abundant ground cover. They use active and abandoned gopher tortoise (*Gopherus polyphemus*) burrows, abandoned mammal burrows, and holes in and under old stumps as their underground retreats.

Because of the small number of remaining Mississippi gopher frogs, the species is extremely vulnerable to even natural processes such as drought and floods, and to further loss, damage, and fragmentation of its habitat. These threats, singly or combined, could cause the frog's extinction.

The single breeding pond used by the frogs is located at the edge of Mississippi's DeSoto National Forest, just 656 feet (200 meters) from a proposed 4,600-acre (1,860 hectare) residential development. This project and the associated de-

velopment it would bring to the area, including highways and a proposed reservoir, could damage or destroy the frog's only remaining habitat.

Natural fires historically have been essential to maintaining the frog's habitat but now are controlled. Biologists have used prescribed burns to maintain the habitat. If development occurs near the breeding pond, however, they may be limited in the use of this management tool because of concerns about public safety and smoke.

Only those landowners in the immediate vicinity of the breeding pond would be affected by the proposed listing. Recreational land use activities such as hunting and fishing would not be affected. The Service has been working with the U.S. Forest Service since 1988 to protect the last remaining Mississippi gopher frog population. In addition, both agencies have joined forces to rehabilitate a nearby pond as a future breeding site for the rare frog. The Service, in conjunction with researchers at Southeastern Louisiana University, has developed a strategy to introduce egg masses into this pond and to determine if the eggs can successfully develop into juvenile frogs at the site.

Two Oregon Plants On May 15, the Service proposed to protect two rare plants in southwestern Oregon, Cook's lomatium (*Lomatium cookii*) and the large-flowered woolly meadowfoam (*Limnanthes floccosa* ssp. *grandiflora*), as endangered. Cook's lomatium, a member of the carrot family (Apiaceae), is a small perennial with pale yellow flowers. The meadowfoam, which belongs to the false mermaid family (Limnathaceae), is a small annual with whitish petals and fuzzy leaves.

Both plants grow in a type of seasonal wetland known as a "vernal pool" in the Agate Desert in Jackson County, Oregon. Urbanization, residential and industrial development, road construction and maintenance, livestock grazing, agricultural development, unauthorized off-road vehicle use, and changes in water usage have contributed to the decline of these plants and their habitat. Cook's lomatium sites to the west in Josephine County are also threatened by habitat alteration associated with gold mining and logging, as well

as by non-native plants moving into the habitat because of fire suppression.

Biologists have identified 13 populations of Cook's lomatium and 10 populations of large-flowered woolly meadowfoam in the Agate Desert. Several lomatium populations grow on Bureau of Land Management lands, but the meadowfoam grows mostly on private property. Large populations of meadowfoam grow on land owned by The Nature Conservancy, which manages its land to benefit native species.

Biologists have discovered the vernal pool fairy shrimp (*Branchinecta lynchi*), a small freshwater crustacean already listed as threatened, in some of the vernal pools that are home to the plants. Local government agencies and citizens in southwest Oregon are exploring regional planning options that could lead to the preservation of some vernal pools.

Two Southwestern Plants On April 12, the Service proposed to list two plant species native to the southwestern Utah/northeastern Arizona border area as endangered. The Holmgren milk-vetch (*Astragalus holmgreniorum*) is restricted to Washington County, Utah, and an adjacent part of Mojave County, Arizona. The Shivwits milk-vetch (*Astragalus ampullarioides*) occurs only in Washington County. Both plants are herbaceous perennials in the pea family (Fabaceae).

The numbers of both plants are rapidly decreasing due primarily to rapid urban expansion and population growth in the St. George, Utah, area. Much of the plants' habitat has been destroyed or degraded by the construction of new roads, power lines, and other development. Off-road recreational vehicle use, the spread of noxious weeds, overgrazing, and mineral development also threaten the plants' survival.

The Holmgren milk-vetch grows low to the ground, spreading in a circle of compound leaves, each with tiny oval-shaped leaflets. Found in shallow, sparsely vegetated soil, it produces small purple flowers in the spring and pods up to 2 inches (5 cm) long. The Shivwits milk-vetch, by contrast, grows up to 20 (50 cm) inches tall, with flowering stems

that reach 40 inches (1 meter) in height. This plant, found only in clay soils, sports large leaflets and numerous cream-colored flowers. Unfortunately, it is palatable to most wild and domestic grazing animals.

Vermilion Darter (*Etheostoma chermocki*)

The small, brilliantly colored vermilion darter, a fish found only in a single tributary in Alabama, is nearing extinction because of habitat destruction and a decline in water quality. As a result, the Service proposed on April 18 to list this native species as endangered.

The vermilion darter occurs only in the Turkey Creek drainage, a tributary of the Locust Fork of the Black Warrior River in Jefferson County. It needs free-flowing streams with clear rock surfaces to survive and reproduce. Vermilion darters face many threats, including earthen dams and impoundments that have altered stream dynamics and reduced the species' range significantly, excessive sedimentation that has made its tributary unsuitable for feeding and reproduction, and other pollutants, such as excess nutrients, pesticides and other agricultural runoff, that wash into the Turkey Creek drainage.

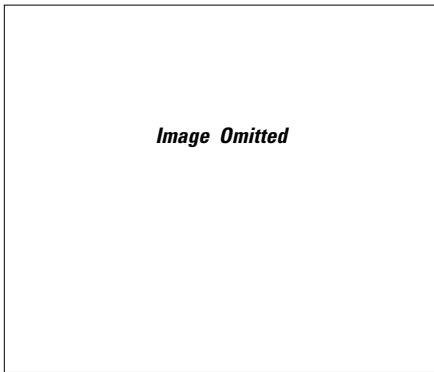


Image Omitted

Vermilion darters

Illustrations © Joe Tomelleri

A local conservation group, the Society to Advance the Resources of Turkey Creek (START), recently received funding through the Service's Partners for Fish and Wildlife Program to minimize non-point source pollution of Turkey Creek. The Jefferson County Commission and START also have worked together to plan a nature preserve encompassing approximately 730 acres (295 ha) of the watershed. In addition, the Service has worked with the

Alabama River Alliance and Alabama Environmental Council to promote watershed stewardship within Turkey Creek.

White Abalone (*Haliotis sorenseni*) On May 5, NMFS (which has ESA jurisdiction for most marine species) proposed to list the white abalone, a marine gastropod native to the waters off California and Baja California, Mexico, as endangered. Excessive take for commercial and recreational purposes has seriously depleted the white abalone throughout its range. Low population density due to overexploitation has reduced the species' reproductive success, thus exacerbating the decline. NMFS does not believe that predation by southern sea otters (*Enhydra lutris nereis*) has been a significant factor.

In 1996, the California Fish and Game Commission closed the white abalone fishery in the United States to protect the surviving adults, but it is unknown whether or not Mexico has limited or closed the fishery along the Baja Peninsula. A consortium of scientists, fishing interests, conservation organizations, government agencies, and mariculturists have joined in an effort to restore white abalone populations. Its activities will likely include collecting broodstock for propagation and establishing refugia for outplanted stocks.

Final Rules

Alabama Sturgeon (*Scaphirhynchus suttkusi*) The Service published a final rule on May 5 to list the Alabama sturgeon, a rare fish of prehistoric origins, as an endangered species. The decision was based on the species' small population size and inability to sustain a viable population. The Alabama sturgeon has disappeared from approximately 85 percent of its historic range in the Mobile River basin of Alabama and Mississippi. Only 5 have been captured in the last 4 years despite intensive efforts by federal and state biologists. This species was once so abundant it was caught and sold commercially. Biologists attribute its decline to over-fishing, loss and fragmentation of its habitat due to navigation-related development, and a degradation of water quality.

Four listed aquatic species share the Alabama

sturgeon's habitat and negative economic impacts have not occurred due to their protection. Current activities, such as navigation channel dredging, hydroelectric power production, agriculture, and silviculture, will not be stopped by the listing of the sturgeon.

O'ahu 'Elepaio (*Chasiempis sanduwichensis ibidis*)

This songbird endemic to the Hawaiian island of O'ahu was listed on April 18 as endangered. Only seven populations totaling 1,500 birds are thought to remain on the island. The O'ahu 'elepaio was once widespread in forested areas throughout the island at all elevations. Currently, however, it is found only in mid-elevation forests in portions of the Ko'olau and Wai'anae mountains, where it is thought to occupy less than four percent of its original range.

The primary threats to the O'ahu 'elepaio are introduced diseases, including avian pox and malaria, and predation by non-native mammals, especially rats. Other known threats include storms with high winds that destroy nests, and habitat degradation and loss caused by human impacts and feral pigs.

Santa Ana Sucker (*Catostomus santaanae*)

The Santa Ana sucker, once one of the most common fish in southern California, was listed as threatened on April 12. This fish historically inhabited small, shallow streams and tributaries throughout the Los Angeles basin. It is now restricted to small reaches of Big Tujunga Creek (a tributary of the Los Angeles River), the headwaters of the San Gabriel River, and the Santa Ana River in Los Angeles, Orange, Riverside, and San Bernardino counties. The Santa Clara River population that exists in portions of Los Angeles and Ventura counties was not listed because biologists believe it is an introduced population.

Biologists considered the sucker a common fish only 30 years ago, but it has experienced a sharp decline and now is absent from 75 percent of its historic range. Because the species reproduces abundantly and tolerates a broad range of habitats, its decline is an indication of how badly the streams and tributaries of the Los Angeles Basin have been degraded from their historical conditions.

Threats to the species include water diversions, channelization and concrete lining of streams, erosion, pollution, recreational gold-mining with suction dredges, and the introduction of non-native species that prey upon the fish or compete with it for food or other resources.

All of the streams known to support the Santa Ana sucker have dams that isolate and fragment the remaining populations. Reservoirs have provided habitat for recently introduced non-native fishes that prey on and compete with Santa Ana suckers. Approximately 15 percent of the current range of the Santa Ana sucker is on U.S. Forest Service lands, including small portions within the San Gabriel Wilderness Area and the Sheep Mountain Wilderness Area of Angeles National Forest.

Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)*

Found only in Idaho, this animal has the smallest geographic range of any squirrel species and one of the smallest ranges of all North American mainland mammals. Its entire range covers an area about 18 by 20 miles (29 by 32 kilometers) on public and private lands north of Council, Idaho, although historically the range may have been much larger.



USFWS Snake River Basin Office photo

In recent years, habitat loss has caused a sharp population decline in northern Idaho ground squirrels. Fire suppression has allowed forests to encroach into the meadows where the species lives. Other threats include land conversion for agricultural and residential development and loss of open corridors between remaining populations.

The northern Idaho ground squirrel lives in dry, rocky meadows surrounded by forests of ponderosa pine or Douglas fir. It eats mainly grass seeds and other green leafy vegetation. The squirrels need large quantities of these food sources to store body energy for the 8 months they spends dormant underground from August through March.

As recently as 1985, biologists estimated there were 5,000 northern Idaho ground squirrels in Adams and Valley counties. By 1998, fewer than 1,000 squirrels were found on private property, lands administered by the State of Idaho, and the Payette National Forest. Population sites range from 3 acres to 40 acres (1.2 to 16 ha).

The Payette National Forest signed a conservation agreement with the Fish and Wildlife Service in 1996 to protect and enhance habitat for the species. The Forest Service is taking action to improve squirrel habitat, including thinning stands of timber to open more meadow habitat and controlled burning of shrubby meadows to create additional grassland and leafy vegetation.

A major portion of the northern Idaho ground squirrel population occurs on a single ranch. The owner of the ranch has been cooperating with the Service in efforts to study the squirrels and relocate them to Forest Service land.

Critical Habitat for Johnson's Seagrass
(Halophila johnsonii) A marine plant classified as threatened, Johnson's seagrass grows along the east coast of Florida in scattered locations from Sebastian Inlet to Biscayne Bay. On April 25, NMFS designated 10 areas within this range as critical habitat (see the April 25 *Federal Register* for details) for the species. This designation alerts federal agencies to consult with NMFS to avoid any actions that are likely to adversely modify the critical habitat.

For more information on our Habitat Conservation Plan program, please visit our website. Just go to the Fish and Wildlife Service's Endangered Species Homepage (<http://endangered.fws.gov>) and click on the button at the left marked "HCPs." At this website, you can examine the regulations and policies shaping the HCP approach to reducing the affects of the Endangered Species Act while addressing the habitat needs of listed species.

Among other topics, the site explains how and why HCPs are developed, the issuance of Incidental Take Permits, and the "No Surprises" policy. "The Quiet Revolution," a 1997 publication posted on the website, features examples of HCPs throughout the nation. A 1995 article first published in the *Endangered Species Bulletin*, "The Nation's First Multi-species HCP for a Forested Landscape," illustrates an example from the state of Washington of the Service's trend towards landscape-scale plans that address the habitat needs of a number of listed and candidate species.

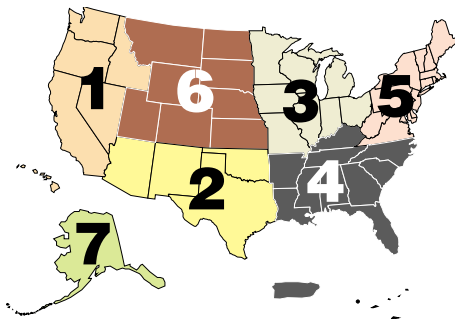
For details on how to develop an HCP, you can download the Habitat Conservation Planning Handbook (and its recent addendum), which was published jointly by the Fish and Wildlife Service and the National Marine Fisheries Service.

As mentioned on page 13, additional information on Wisconsin's statewide HCP is available at this website:

http://midwest.fws.gov/eco_serv/endangrd/insects/kbbhpc.html.

Region 1 has its own HCP website, containing information on: 1) the International Paper HCP in Washington, 2) the Washington Department of Fish and Wildlife's Hydraulic Project Approval Project (relating to reviews of activities that may affect state waters), and 3) a log showing the status of the numerous HCPs being developed or implemented in western Washington. This site can be found at:

<http://pacific.fws.gov/hcp/>



Fish and Wildlife Service regional endangered species staffers have reported the following news:

Region 1

Aleutian Canada Goose (*Branta canadensis leupareia*) An interesting development at Humboldt Bay (California) NWR may help in planning future habitat management. More Aleutian Canada geese are using the refuge's Salmon Creek Unit than at any time since the Fish and Wildlife Service acquired it in 1988. This may be due to the fact that this is the first time in recent years there has been no winter/spring grazing on the unit. The numbers of Aleutians rose from 700 in late January to 1,800 by mid-February, and to a mid-summer total of approximately 3,000. Along with the lack of distur-



Aleutian Canada geese
Photo by George Gee

bance, an additional benefit from no grazing was the fact that the refuge could hold on to more water than ever before. The grazing permit has been retired but the previous permit holder is being allowed to make hay on the land in order to help manage the growth of non-native plants.

Southwestern Willow Flycatcher (*Epidomax trailii extimus*) Surveys and banding studies by Ash Meadows National Wildlife Refuge (NWR) biologist David St. George and staff from the U.S. Geological Survey's Biological Research Division (BRD) and Nevada Division of Wildlife have documented the presence of southwestern willow flycatchers at Ash Meadows since 1993. Recent DNA analysis by the BRD has separated these breeding pairs from the two other subspecies known to occur in Nevada.

Some exceptional information on southwestern willow flycatcher seasonal migrations has also turned up. A male banded at Ash Meadows in July 1998 was subsequently recaptured and color banded in San Jose, Costa Rica, in January 1999. He returned to breed at Ash Meadows in June 1999 but was not observed there this summer. Out of four southwestern willow flycatchers color-banded at Ash Meadows in July 1998, only one was observed at the refuge in 2000.

Public Outreach The fourth "Living With Carnivores" workshop made it to the Spokane REI (Recreational Equipment, Inc.) store on May 25, when more than 50 people participated in a 2-hour educational session. Five workshops were held across Washington in May and June to help residents understand how to avoid conflicts with grizzly bears (*Ursus arctos*), black bears (*Ursus americanus*), gray wolves (*Canis lupus*), cougars (*Felis concolor*), and coyotes (*Canis latrans*). The workshops are a cooperative effort of the Service's Western Washington Office, the Washington Department of Fish and Wildlife, Defenders of Wildlife, Wolfhaven International, U.S.D.A.'s Wildlife Services agency, Northwest Ecosystem Alliance, Insight Wildlife Management, and CounterAssault Bear Deterrent Spray. There were slide show presentations on each of the carnivores followed by a lively question-and-answer session. The workshop was well received and was repeated



Grizzly bear
Corel Corp. photo

in Bellingham on June 22. A private donor from Bellingham, Washington, contributed \$1,000 for the costs of conducting the June 22 workshop. A special fund was set up through Defenders of Wildlife to handle additional contributions. Other contributors have included the Seatac Rotary Club and REI Outfitters.

Reported by LaRee Brosseau of the Portland Regional Office.

Region 4

Wood Stork (*Mycteria americana*) The Service, in cooperation with several other state, federal, and private organizations, hopes to conduct surveys during the upcoming nesting season, beginning in October, to determine the current status of the endangered wood stork. At present, wood stork nesting colonies are found in South Carolina, Georgia and Florida. Post-breeding storks disperse as far north as North Carolina and as far west as Mississippi and Alabama.

In the early 1930s, wood stork populations totaled 75,000 birds. By the early 1980s, however, the stork's population had declined to 5,000 nesting pairs in 52 active colonies. The generally accepted explanation for the decline was the reduction in the food base available to support breeding colonies. This reduction was caused by a reduction in wetland habitat, accompanied by a change in hydroperiods resulting from the intensive water management in south Florida.

During the 1990s, the stork's total population increased to 6,000 nesting pairs in 59 active colonies in Florida, Georgia, and South Carolina. Historically, the largest populations have been in the Big Cypress National Preserve and the Everglades. Recently, the population appears to be growing in northern Florida, South Carolina, and Georgia. However, biologists are not yet certain whether the stork's population is actually increasing in the northern areas or is just moving north because of habitat changes in the Everglades. This will be an important determination to make before a proposal to reclassify the stork from endangered to threatened can be issued; the species' recovery plan stipulates that there must be at least 2,500 nesting pairs remaining within the species' historic south Florida area.

Reported by Bill Brooks of the Jacksonville, Florida, Field Office.

Puerto Rican Parrot (*Amazona vittata*)

Ten captive-reared Puerto Rican parrots were released into the Caribbean National Forest on June 27, joining the 40 birds already in the wild. This release highlighted a 32-year cooperative effort between the Fish and Wildlife Service, U.S. Forest Service, and Puerto Rico Department of Natural and Environmental Resources to help save the parrot, one of the most endangered birds in the U.S., from extinction. Two aviaries sustain about



Puerto Rican parrots
Photo by N. Snyder

100 parrots to provide stock for future releases. The June 27 release included a formal ceremony and provided opportunities for media coverage.

Nine of the 10 released parrots were still alive and healthy as of early August and were adapting to their new environment. One bird was lost on July 1; its cause of death remains unknown. The birds are no longer using supplemental feeding, and they all survived an attack near the release site by a red-tailed hawk (*Buteo jamaicensis*) on July 19.

Reported by Elsie Davis of the Atlanta Regional Office.

Region 5



Corel Corp. photo

Bald Eagle (*Haliaeetus leucocephalus*)

Two bald eagle chicks grew rapidly in a wild nest located on an island in the Connecticut River in western Massachusetts. What made this nest unique was the placement of a video camera above the nest that transmitted images to a nearby mainland receiver. Residents in the immediate area had access to the video signal via their local cable TV network, while folks around the world checked on the eagles' progress via the internet. Single video frames were captured by computer at the Silvio Conte NWR office and transmitted to offices of Northeast Utilities. The company's webmasters posted the images on the company's web page and refreshed them every 5 minutes during daylight hours. The web site has been receiving thousands of visits daily. Check out this fascinating wildlife success story by logging on to www.MassWildlife.org and clicking on the "eagle cam 2000" box, or go directly to www.nu.com and click on "Eagles Raising Two Chicks."



Plymouth redbelly turtle
Photo by T. E. Graham














Plymouth Redbelly Turtle (*Pseudemys rubriventris bangsi*)

More than 120 endangered Plymouth redbelly turtles were released in early June as part of an intensive recovery project. The turtles were originally collected as quarter-sized hatchlings and distributed to museums, science centers, aquariums, and schools across the state where they were "headstarted" over the winter. Headstarting involves feeding and maintaining the turtles in warm waters to accelerate their growth at a time of year when they would normally be inactive. The young turtles benefit by avoiding predation when they emerge from their nest in the fall, and they are less vulnerable to predation in the spring because of their larger size. To date, more than 220 redbelly hatchlings have been headstarted and returned to their natural habitats in the ponds and rivers of Plymouth County. The headstarting effort is designed to bolster the redbelly turtle population, currently estimated at 300 adults, and to serve as an environmental education tool for the participating institutions, schools, and organizations.

Reported by Mark W. Clough of the Service's Cortland, New York, Field Office.

BOX SCORE

Listings and Recovery Plans as of August 31, 2000

GROUP	ENDANGERED		THREATENED		TOTAL LISTINGS	U.S. SPECIES W/ PLANS**
	U.S.	FOREIGN	U.S.	FOREIGN		
 MAMMALS	63	252	9	16	340	47
 BIRDS	78	175	15	6	274	76
 REPTILES	14	64	22	15	115	30
 AMPHIBIANS	10	8	8	1	27	12
 FISHES	69	11	44	0	124	90
 SNAILS	20	1	11	0	32	20
 CLAMS	61	2	8	0	71	45
 CRUSTACEANS	18	0	3	0	21	12
 INSECTS	30	4	9	0	43	28
 ARACHNIDS	6	0	0	0	6	5
ANIMAL SUBTOTAL	369	517	129	38	1,053	365
 FLOWERING PLANTS	565	1	139	0	705	528
 CONIFERS	2	0	1	2	5	2
 FERNS AND OTHERS	26	0	2	0	28	28
PLANT SUBTOTAL	593	1	142	2	738	558
GRAND TOTAL	962	518	271	40	1,791*	923

TOTAL U.S. ENDANGERED: 962 (369 animals, 593 plants)

TOTAL U.S. THREATENED: 271 (129 animals, 142 plants)

TOTAL U.S. LISTED: 1,233 (498 animals***, 735 plants)

*Separate populations of a species listed both as Endangered and Threatened are tallied once, for the endangered population only. Those species are the argali, chimpanzee, leopard, Stellar sea lion, gray wolf, piping plover, roseate tern, green sea turtle, saltwater crocodile, 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.

**There are 530 approved recovery plans. Some recovery plans cover more than one species, and a few species have separate plans covering different parts of their ranges. Recovery plans are drawn up only for listed species that occur in the United States.

***Nine animal species have dual status in the U.S.

ENDANGERED
Species
BULLETIN

*U.S. Department of the Interior
 Fish and Wildlife Service
 Washington, D.C. 20240*

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