

Regional endangered species staffers have reported the following news:

## Region 1

**Ash Meadows National Wildlife Refuge** In April 2002, volunteers donated over 200 hours to restore native plants at Ash Meadows National Wildlife Refuge (NWR) in Nevada. By working to revegetate the site, volunteers helped restore and recreate historical habitat in a system of springs and outflows called Point of Rocks for the endangered Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*) and the threatened Amargosa naucorid (*Ambrysus amargosus*), an aquatic insect.

Established in 1984, the refuge includes a total of 23,928 acres (9,683 hectares) of spring-fed wetlands and alkaline desert uplands. Ash Meadows NWR provides habitat for at least 24 plants and animals that occur only within the boundaries of the refuge. Twelve of those endemic species are listed as threatened or endangered under the Endangered Species Act (ESA).

**San Pablo Bay NWR** The refuge began the restoration of 72 acres (29 ha) of low-yield hayfields to tidal salt marsh last March by breaching a bayfront levee. The goal is to bring back native pickleweed-dominated vegetation, which is habitat for the salt marsh harvest mouse (*Reithrodontomys raviventris*) and California clapper rail (*Rallus longirostris obsoletus*), two endangered species in the greater San Francisco Bay estuary. The restoration site included lands managed by the refuge under long-term lease from State of California Lands Commission. This site is situated immediately east of and adjacent



**California clapper rail**  
photo by Mike Boyland/USFWS



**Salt marsh harvest mouse**  
Photo © B. Moose Peterson/WRP

to the Tolay Creek Unit of the refuge, a 435-acre (177-ha) site restored to tidal action in December 1998 for the same purposes.

## Region 5

**American burying beetle (*Nicrophorus americanus*)** Reintroduction of this carrion beetle continues on Nantucket Island, off the coast of Massachusetts. The Roger Williams Park Zoo in Providence, Rhode Island, has reared beetles for release since 1994. Last June, the largest effort to date occurred with over 270 pairs released at the Massachusetts Audubon Society's Sesachacha Wildlife Sanctuary and Ram Pasture (owned by the Nantucket Conservation Foundation). Each pair was supplied a quail carcass to provide food for the adults and future larvae. National Public Radio was on hand to obtain information for its "Living on Earth" program. Partners essential to the success of this work include the Zoo, Massachusetts Audubon, Nantucket Conservation Fund,

Maria Mitchell Natural History Museum, Massachusetts Division of Fisheries and Wildlife, and the Service's New England Field Office.

**Lee County Cave Isopod (*Lirceus usdagalun*)** On February 19, 2002, five staff from the Service and the Virginia Department of Conservation and Recreation's Division of Natural Heritage rediscovered the Lee County cave isopod in Thompson Cedar Cave, where the tiny crustacean was thought to be extirpated. The Lee County cave isopod was listed as endangered in 1992 and is known from only the Thompson Cedar Cave type locality and one other cave and two springs located in the unique limestone karst topography of southwestern Virginia.

The isopod population and the cave wildlife community were thought to be extirpated from Thompson Cedar Cave by 1988 due to leachate from a huge sawdust pile that was deposited in and around the cave entrance. In response to concern from the Service and several state agencies, the sawmill operator voluntarily removed the sawdust from the sinkhole surrounding the cave entrance and installed a clay berm to divert surface runoff from the sinkhole. According to an inventory conducted in late June by biologists from the Service and the state Division of Natural Heritage, the Lee County cave isopod population in Thompson Cedar Cave is growing and the remaining ecological community of the cave seems to be thriving. We believe that the removal of the sawdust from the sinkhole surrounding the cave entrance and recent drought conditions have slowed the release of leachate to the subterranean system, allowing the cave community to recover. The Service and several partners are assisting the lumber company in removing the remaining sawdust.

**Piping plover (*Charadrius melodus*)** U.S. Atlantic Coast piping plover abundance and productivity figures for the 2000 and 2001 breeding seasons are now available on-line at "<http://pipingplover.fws.gov/status/index.html>." After a 3 percent decline between 1997 and 1999, the estimate of breeding pairs on the U.S. Atlantic Coast posted a 4 percent increase between 1999 and 2000, followed by a 6 percent gain in 2001. The total 2001 U.S. Atlantic count of 1,280 breed-



**Piping plover**

Photo © Richard Kuzminski

ing pairs is the highest since the species' 1986 listing under the ESA. Increases occurred in all three U.S. Atlantic recovery units, with the largest percentage gains in New York-New Jersey. The Atlantic Canada population also posted a 16-year high estimate of 245 pairs. Net change in the entire Atlantic Coast population over the two years 2000-2001 was more than 9 percent, for a total of 1525 pairs nesting between North Carolina and Newfoundland.

The Service's Long Island Field Office (LIFO) continues to make strides in protecting the piping plover on privately held lands and lands managed by federal, state, and local governmental agencies. The LIFO has worked with these entities to promote and implement predator trapping, education and outreach programs, training, and on-the-ground technical and logistical assistance. Over the course of two weeks in June of this year, the LIFO met with representatives from four communities, the National Park Service, a local town, four fire districts, two police districts, and multiple utility companies to draft a plan to protect breeding plovers within the National Park Service's Fire Island National Seashore from adverse impacts due to off-road vehicles, pedestrians, pets, and fireworks. As part of this effort, the Service will provide training to local community members interested in monitoring the plover nests and chicks, technical assistance to the governing town in the drafting of local executive orders to protect plovers, and assistance to the National Park Service during the ESA-section 7 consultation process in developing the final plan to avoid adverse impacts to the species.

From February through October 2002, we published the following Endangered Species Act (ESA) rules in the *Federal Register*. The full text of each action can be accessed through our website: <http://endangered.fws.gov>.

### Emergency Listing Rule

**California Tiger Salamander (*Ambystoma californiense*)** On July 22, due to an imminent threat of habitat destruction, we listed the Sonoma County distinct population segment of the California tiger salamander as endangered under the emergency provisions of the ESA. This action gave temporary but immediate protection to the salamander and its habitat. The emergency listing will remain in effect for 240 days, while we make a final decision on a proposal to give the Sonoma County population of California tiger salamander long-term protection under the normal listing process. (This proposal also was published in the July 22 *Federal Register*.)



**California tiger salamander**

Photo © B. Moose Peterson/WRP

Urban development is the primary and imminent threat to the remaining seven breeding sites of the Sonoma County tiger salamander population. The animal now occurs in scattered and increasingly isolated breeding sites within a small portion of its historic range in Sonoma County. Four breeding sites have been destroyed or significantly degraded within the last 2 years. All of the remaining breeding sites are distributed in the city of Santa Rosa and associated unincorporated areas on the Santa Rosa Plain. The Sonoma County population is geographically isolated and separate from other populations of this species

The California tiger salamander is a large and stocky amphibian with a broad, rounded snout.

Males may reach about eight inches (20 centimeters) in length; females are slightly shorter. They have white or pale yellow spots or bars on a black background. Their undersides can vary from almost uniform white or pale yellow to a varying pattern of white or pale yellow and black.

California tiger salamanders make use of burrows created by small mammals, especially ground squirrels and pocket gophers. Adult tiger salamanders spend an average of six to nine months per year in the burrows, where they await the arrival of fall or winter rains. The loss of burrow systems is a significant threat to the survival of the California tiger salamander.

### Proposed Listing Rules

**Gila chub (*Gila intermedia*)** On August 9, we proposed to list this southwestern fish as an endangered species. The Gila chub is a small, darkly colored fish that reaches a length of about 6 to 8 inches (15 to 20 cm). It was once found throughout small streams, springs, and pools in the Gila River basin in southern Arizona, southwestern New Mexico, and northeastern Sonora, Mexico, but it has been extirpated or reduced in numbers and distribution in most of its historical range. We estimate that 85 to 90 percent of the Gila chub's habitat has been degraded or destroyed. Where this fish still occurs, populations are often small, scattered, and at risk of extirpation. The listing proposal included a proposal to designate seven stream areas of about 208 miles (333 kilometers) in total length as critical habitat for the chub.



**Gila chub**

USFWS photo

Threats to the remaining populations include: 1) predation by, and competition with, nonnative organisms, including other fish species, bullfrogs

(*Rana catesbeiana*), and crayfish (*Orconectes virilis*); 2) disease; and 3) habitat alteration, destruction, and fragmentation resulting from water diversions, dredging, recreation, roads, livestock grazing, changes in the natural flow pattern, mining, degraded water quality (including contaminants from mining activities and excessive sedimentation), and groundwater pumping.

**Beluga Sturgeon (*Huso huso*)** We proposed on July 31 to list the beluga sturgeon as an endangered species. This large fish inhabits the Caspian and Black Seas, and it spawns in the rivers that constitute the drainage basins of these seas. Loss



**Beluga sturgeon**

Photo by Hans-Jurgen Burkard/Bilderbert  
Photo courtesy of Caviar Emptor

of habitat throughout historic spawning areas due to dam construction and river-modification projects, overharvest for the international caviar trade, widespread poaching and illegal trade to supply the caviar market, and pollution imperil the survival of this species. Due to continuing overharvest, the greatest threat, this species was listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1998. Despite the CITES listing, beluga sturgeon populations have continued to decline, and the population structure is increasingly skewed towards subadult fish, with a critical lack of spawning-age adult female fish. If this species is listed as endangered under the ESA, commercial imports, exports, re-exports and interstate commerce of beluga sturgeon (including its caviar) would be prohibited.

**California Tiger Salamander (*Ambystoma californiense*)** As mentioned previously, we

proposed on July 22 to make permanent the provisions of the emergency rule listing the Sonoma County distinct population segment of the California tiger salamander as endangered. This population is currently known from only seven viable breeding sites and associated uplands.

**Slickspot Peppergrass (*Lepidium papilliferum*)** On July 15, we proposed to list this rare plant, an annual or biennial in the mustard family (Brassicaceae), as endangered. It occurs only in sagebrush-steppe habitats in southwestern Idaho, including the Snake River Plain, Owyhee Plateau, and adjacent foothills.

The slickspot peppergrass ranges from 4 to 12 inches (10 to 30 cm) in height. It has many tiny white flowers and most closely resembles the garden flower sweet alyssum. As its common name indicates, the slickspot peppergrass typically grows in small areas known as “slick spots” that are within large sagebrush areas. Slickspots are inclusions of clay or alkaline soils within a larger matrix of saline soils. These smaller sites are often lower than the surrounding areas, so they retain water longer than the surrounding soil. These areas may be as small as a square foot or as large as half a basketball court. They usually are surrounded by big sagebrush, native bunchgrasses, wildflowers, mosses, and lichens.

Biologists have documented 70 occurrences of slickspot peppergrass in Ada, Canyon, Gem, Elmore, Payette and Owyhee counties, but only six of these areas are considered to be of high quality. This species is no longer found in 18 other historic sites. The remaining suitable habitat to support this species is less than 12,400 acres (520 hectares).

All remaining populations of the slickspot peppergrass are potentially vulnerable to naturally occurring events (such as wildfire), introductions of exotic species, development, and other human activities.

**Three Southwestern Aquatic Invertebrates** We proposed on February 12 to list the Roswell springsnail (*Pyrgulopsis roswellensis*), Koster's tryonia (*Tryonia kosteri*), Pecos assiminea

(*Assiminea pecos*), and Noel's amphipod (*Gammarus desperatus*) as endangered species and to designate their critical habitat. These species occur at sinkholes, springs, and associated spring runs and wetland habitats. They are found at two sites in Chaves County, New Mexico, one site in Pecos County, Texas, and one site in Reeves County, Texas. *Pecos assiminea* is also known from one area in Coahuila, Mexico.

These small aquatic animals have an exceedingly limited distribution and are imperiled by local and regional groundwater depletion, surface and groundwater contamination, oil and gas extraction activities within the supporting aquifer and watershed, and direct loss of their habitat (e.g., through burning or removing marsh vegetation, cementing, or filling of habitat).

Roswell springsnail, Koster's tryonia and Pecos assiminea are small aquatic snails, while the Noel's amphipod is a freshwater shrimp. The species coexist in small, geographically isolated springs at Bitter Lake National Wildlife Refuge in Chaves County in southeastern New Mexico. The Pecos assiminea snail also occurs at Diamond Y Springs in Pecos County and East Sandia Spring in Reeves County, on land managed by the Nature Conservancy of Texas.

## Final Listing Rules

**Tumbling Creek Cavesnail (*Antrobia culveri*)** We published a final rule on August 14 listing this small aquatic snail as an endangered species. It is known to occur only in one



**Tumbling Creek cavesnail**

USFWS photo

cave in Missouri, and its distribution has decreased by 90 percent since 1974. Although cavesnail numbers fluctuated seasonally and annually between 1996 and 2000, the species was not found in the monitored section of the cave stream during six surveys in 2001 and two surveys in 2002. Small numbers of individuals continue to exist in other portions of the cave stream. Because the sudden population decline demonstrates a significant and imminent risk to the well-being of the Tumbling Creek cavesnail, we found that listing this species was necessary.

**Carson Wandering Skipper (*Pseudocopaeodes eunus obscurus*)** We listed this small butterfly on August 7 as endangered. The Carson wandering skipper is currently known from only two populations, one in Washoe County, Nevada, and one in Lassen County, California. The subspecies is found in grassland habitats on alkaline substrates. It is threatened by habitat destruction, degradation, and fragmentation due to urban and residential development, wetland habitat modification, agricultural practices (such as excessive livestock grazing), gas and geothermal development, and nonnative plant invasion. Other threats include collecting, livestock trampling, water exportation projects, road construction, recreation, and pesticide drift.



**Carson wandering skipper**  
USFWS photo

**Mountain Yellow-legged Frog (*Rana muscosa*)** The southern California distinct population segment of the mountain yellow-legged frog was listed July 2 as endangered. Seven small, isolated populations totaling fewer than 100 adult individuals are believed to exist within portions of the San Gabriel, San Bernardino, and San Jacinto Mountains. Historically, the southern California population was known from about 166 documented localities ranging from Palomar

Mountain in northern San Diego County to the San Gabriel Mountains in Los Angeles County.

Although the exact causes of the California population's dramatic decline are not fully understood, possible causes include predation from bullfrogs and introduced trout, disease, contaminants, and habitat alteration. Almost all of the remaining populations of mountain yellow-legged frogs in southern California are confined to a few stream reaches within the boundaries of the Angeles and San Bernardino national forests.

**San Diego Ambrosia (*Ambrosia pumila*)** Also on July 2, we listed this rare plant in the sunflower family (Asteraceae), which is found in southern California and northern Baja California in Mexico, as endangered.

Once found on 40 distinct sites in San Diego and Riverside counties, occurrences of San Diego ambrosia in the United States are now restricted to 12 sites in San Diego County and three in Riverside County. The Service has worked for several years prior to listing with the city and county of San Diego and Riverside County to protect the San Diego ambrosia wherever it occurs.

The species is threatened by 1) habitat loss, fragmentation, and degradation from urban and recreational development; 2) highway construction and maintenance activities; 3) trampling and soil compaction from horses, humans, and vehicles; 4) maintenance of utility easements; and 5) introduction of non-native plants.



**San Diego ambrosia**  
USFWS photo

**Chiricahua Leopard Frog (*Rana chiricahuensis*)** This species of frog has been eliminated from more than 75 percent of its historical sites and numerous mountain ranges, valleys, and drainages within its former range. In areas where it is still present, populations are often small, widely scattered, and occupy marginal and dynamic habitats. Known threats include habitat alteration, destruction, and fragmentation, predation by nonnative organisms, and disease. The June 13 final listing rule will give federal protection to this species and provide funding for developing and implementing recovery actions. Concurrently with publication of the final rule, we are publishing a special rule under section 4(d) of the ESA. Under the special rule, take of Chiricahua leopard frog caused by livestock use of, or maintenance activities at, livestock tanks located on private, state, or tribal lands would be exempt from the "take" prohibitions in section 9 of the ESA.

**Desert Yellowhead (*Yermo xanthocephalus*)** On March 14, we listed the desert yellowhead, a perennial herb in the sunflower family, as a threatened species. The only known population, which included approximately 12,000 plants according to surveys conducted in 2001, exists on less than 50 acres (20 ha) of public property administered by the Bureau of Land Management (BLM) in southern Fremont County,



**Desert yellowhead**  
Photo by Chuck Davis/USFWS

Wyoming. Its restricted range and small population size make this plant vulnerable to extinction by natural and human-caused disturbance and environmental stress. Potential oil and gas field development on a 1,160-acre (470-ha) lease that includes the plant's habitat is one threat to the species. Two large leases for oil and gas development were issued in 1996 and 1997 that could impact the plant and its habitat, with no specific stipulations included to protect the plant. The Service is working with the BLM to develop a conservation agreement.



**Showy stickseed**

Photo by Ted Thomas/USFWS

**Buena Vista Lake Shrew (*Sorex ornatus relictus*)** On March 6, we listed the Buena Vista Lake shrew, a tiny insect-eating mammal native to California's southern San Joaquin Valley, as endangered. This unique animal, which consumes more than its weight in insects every day, is part of the San Joaquin Valley's historic ecosystem. With scientific surveys unearthing fewer than 30 of these animals at only four locations—the former Kern Lake Preserve, Cole Levee Ecological Preserve, the Kern Fan recharge area and our own Kern National Wildlife Refuge complex—we believe the species is perilously close to extinction.

Biologists believe the Buena Vista Lake shrew has lost more than 95 percent of its historic habitat. The remaining populations are threatened primarily by agricultural activities, modifications of local hydrology, uncertain water supply, possible toxic effects from selenium poisoning, and naturally occurring catastrophic events such as drought that could wipe out the remaining animals. Water is a vital component of the shrew's environment because of the moisture required to support the variety of insects that are its primary food source.

**Showy Stickseed (*Hackelia venusta*)** Considered the state of Washington's rarest plant, this species was listed on February 6 as endangered. The showy stickseed has a beautiful, five-lobed, white flower and is known from only one location in Chelan County on U.S. Forest Service land. Past surveys show the stickseed has been moving steadily towards extinction, having declined from more than 1,200 individuals in the early 1980s to about 500 plants in 2001.

The stickseed is threatened primarily by collectors who desire the plant because of its rarity. It grows on fine, loose granite slopes containing little organic matter, and, as a result, few nutrients. Several nonnative noxious weeds have invaded stickseed habitat and threaten to out-compete the stickseed for the available nutrients. Habitat disturbance also threatens the stickseed, as does competition from native and nonnative plant species caused by fire suppression, which leads to vegetational succession.

## Delisting Rules

**Robbins' Cinquefoil (*Potentilla robbinsiana*)** Celebrating the recovery of the Robbins' cinquefoil, a small alpine perennial herb in the rose family (Rosaceae), we published a final rule on August 27 removing this plant from the list of endangered and threatened species. Its main population contains more than 14,000 plants, and the 2 transplant populations have reached or surpassed their minimum viable population size.

The Robbins' cinquefoil is endemic to a harsh alpine environment in the White Mountain National Forest of New Hampshire. Its recovery was made possible through collaborative efforts of the Fish and Wildlife Service, U.S. Forest Service, Appalachian Mountain Club, and New England Wild Flower Society to reroute a hiking trail and grow plants for replanting into the wild. (See "An Alpine Plant Comes Back" in *Bulletin* Vol. XXVII, No. 3.)

The delisting rule includes a proposed 5-year monitoring plan, as required for species that are delisted due to recovery. This plan will include monitoring of population trends of both natural and transplanted populations.

**Truckee Barberry (*Berberis (=Mabonia) sonnei*)** We proposed on September 3 to remove this plant, a small, colonial evergreen shrub in the family Berberidaceae, from the list of endangered and threatened species due to a taxonomic revision. At the time it was listed, this plant was considered to be a distinct species. The prevailing judgment among plant taxonomists is now that this plant is not a discrete taxonomic entity and therefore does not meet the definition of a species as defined by section 2 of the ESA. Botanists have synonymized *Berberis sonnei* with *Berberis repens*, a common and widespread taxon with a distribution from California northward to British Columbia and Alberta, and eastward to the Great Plains.

## Critical Habitat

Critical habitat, as defined in the ESA, is a term for a geographic area that is essential for the conservation of a listed species. Critical habitat designations do not establish a wildlife refuge, wilderness area, or any other type of conservation reserve, nor do they affect actions of a purely private nature. They are intended to delineate areas in which federal agencies must consult with the Service to ensure that actions these agencies authorize, fund, or carry out do not adversely modify the designated critical habitat. Within designated critical habitat boundaries, federal agencies are required to consult except in areas that are specifically excluded, such as developed areas within the boundaries that no longer contain suitable habitat. Maps and more specific information on critical habitats actions listed below are contained in the specific *Federal Register* notice designating each area. For more information on critical habitat designations in general, go to the website for our Endangered Species Listing Program: <http://endangered.fws.gov/listing/>.



**Gulf sturgeon**

Photo by Robert H. Pos/USFWS

## Proposed Critical Habitat Rules

In addition to the critical habitat proposals noted above as part of the listing proposals, proposed designations of critical habitat for previously listed species have been published for the following:

- Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), a coastal plant from southern Oregon and central California, on October 9;
- 4 crustaceans and 11 plants found in vernal pools in California and southern Oregon, September 27;
- nine invertebrates endemic to karst habitats (such as caves, fissures, and sinkholes) in Bexar County, Texas, on August 27;
- Preble's meadow jumping mouse (*Zapus hudsonius preblei*), a small mammal living along rivers and streams in Colorado and Wyoming, on July 17;
- Keck's checkermallow (*Sidalcea keckii*), a plant growing in central California, on June 19;
- two plants, Baker's larkspur (*Delphinium bakeri*) and the yellow larkspur (*Delphinium luteum*) from coastal northern California, on June 18;
- Blackburn's sphinx moth (*Manduca blackburni*), an insect found on the Hawaiian islands of Maui, Hawai'i, Moloka'i, and Kaho'olawe, on June 13;
- Gulf sturgeon (*Acipenser oxyrinchus desotoi*), a fish currently found in rivers flowing into the Gulf of Mexico from Louisiana to Florida,

on June 6;

- Rio Grande silvery minnow (*Hybognathus amarus*), a small fish that formerly occurred throughout most of the Rio Grande but now survives only from Cochiti Dam in Sandoval County downstream to the headwaters of Elephant Butte Reservoir in Sierra County, New Mexico, on June 6;
- 99 endemic plant species known historically from the Hawaiian island of O'ahu, on May 28;
- 47 plant species known historically from the island of Hawai'i, on May 28;
- five plant species on the islands of Nihoa, Necker, and Laysan in the Northwestern Hawaiian Islands, on May 14;
- 46 plant species known historically from the Hawaiian island of Moloka'i, on April 5;
- 61 plant species known historically from the Hawaiian islands of Maui and Kaho'olawe, on April 3;
- Kauai cave wolf spider (*Adelocosa anops*) and Kauai cave amphipod (*Spelaeorchestia koloana*), two invertebrates known only from the Hawaiian island of Kaua'i, on March 27;
- 32 plant species listed known historically from the Hawaiian island of Lana'i, on March 4; and
- five plants species endemic to carbonate soils in the San Bernardino Mountains of southern California, on February 12.

## Final Critical Habitat Rules

Final critical habitat rules have been published in the *Federal Register* for the following species:

- two southern California plants, the purple amole (*Chlorogalum purpureum* var. *purpureum*) and Camatta Canyon amole (*Chlorogalum purpureum* var. *reductum*), on October 24;
- Santa Cruz tarplant (*Holocarpha macradenia*) from central California, on October 16;
- three species on Guam, two birds and a fruit bat, on October 15;
- a northern California plant, the Kneeland Prairie penny-cress (*Thlaspi californicum*), on October 9;
- Appalachian elktoe (*Alasmidonta raveneliana*), a freshwater mussel living in streams in North Carolina and Tennessee, on



**Appalachian elktoe**

Photo by Richard Biggins/USFWS

September 27;

- the northern Great Plains breeding population of the piping plover (*Charadrius melodus*), on September 11;
- Newcomb's snail (*Erinna newcombi*), a freshwater snail endemic to the Hawaiian island of Kaua'i, on August 20;
- Carolina heelsplitter (*Lasmigona decorata*), a freshwater mussel found in North and South Carolina, on July 2;
- Monterey spineflower (*Chorizanthe pungens* var. *pungens*), a central California plant, on May 29;
- Scotts Valley spineflower (*Chorizanthe robusta* var. *hartwegii*), a central California plant, on May 28;
- robust spineflower (*Chorizanthe robusta* var. *robusta*), a central California plant, on May 28;
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*) a small hopping mammal in southern California, on April 23; and
- Quino checkerspot butterfly (*Euphydryas editha quino*) in southern California, on April 15.
















**Quino checkerspot butterfly**

Photo © B. Moose Peterson/WRP

# BOX SCORE

Listings and Recovery Plans as of March 31, 2003

GROUP	ENDANGERED		THREATENED		TOTAL LISTINGS	U.S. SPECIES W/ PLANS
	U.S.	FOREIGN	U.S.	FOREIGN		
 MAMMALS	65	251	9	17	342	52
 BIRDS	78	175	14	6	273	77
 REPTILES	14	64	22	15	115	32
 AMPHIBIANS	12	8	9	1	30	14
 FISHES	71	11	44	0	126	96
 SNAILS	21	1	11	0	33	22
 CLAMS	62	2	8	0	72	57
 CRUSTACEANS	18	0	3	0	21	13
 INSECTS	35	4	9	0	48	29
 ARACHNIDS	12	0	0	0	12	5
<b>ANIMAL SUBTOTAL</b>	<b>388</b>	<b>516</b>	<b>129</b>	<b>39</b>	<b>1,072</b>	<b>397</b>
 FLOWERING PLANTS	570	1	144	0	715	572
 CONIFERS	2	0	1	2	5	2
 FERNS AND OTHERS	26	0	2	0	28	28
<b>PLANT SUBTOTAL</b>	<b>598</b>	<b>1</b>	<b>147</b>	<b>2</b>	<b>748</b>	<b>602</b>
<b>GRAND TOTAL</b>	<b>986</b>	<b>517</b>	<b>276</b>	<b>41</b>	<b>1,820*</b>	<b>999</b>

**TOTAL U.S. ENDANGERED:** 986 (388 animals, 598 plants)  
**TOTAL U.S. THREATENED:** 276 (129 animals, 147 plants)  
**TOTAL U.S. LISTED:** 1,262 (517 animals\*\*, 745 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.

\*\* 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*

FIRST CLASS  
POSTAGE AND FEES PAID  
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PERMIT NO. G-77