

ENDANGERED SPECIES

Technical Bulletin

U.S. Department of the Interior
Fish and Wildlife Service

Landmark U.S. Legislation Will Conserve Exotic Wild Birds

by Susan S. Lieberman

On October 23, 1992, landmark legislation to conserve exotic wild birds was signed into law. The Wild Bird Conservation Act of 1992 (WBCA) directs the world's largest importer of birds and other wildlife—the United States—to ensure that its bird imports do not jeopardize wild populations, and it reinforces the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This important new law also authorizes a fund to help countries of origin conduct status research on wild birds and set up conservation plans.

The international wild bird trade is a serious conservation problem. It accounts for a number of the species included in the CITES Appendices and the U.S. list of Threatened and Endangered wildlife. Importation into the U.S. alone has contributed to the decline of many species in the wild. In a recent 3-year period, for example, more than 1.9 million wild birds were imported legally into this country. Approximately 850,000 of these were parrots and other species on Appendix II of CITES.

Under CITES rules, the importation of species listed on Appendix II has been allowed under permits issued by the exporting countries. Unfortunately, many of these countries are unable to implement the scientific and management programs needed to ensure that exports are not harming wild populations. By the time a species is transferred to CITES Appendix I, which prohibits imports and exports for primarily commercial purposes, it is often too late.

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The blue and gold macaw (Ara ararauna), a species that has been traded heavily, is now subject to the stronger conservation measures of the Wild Bird Conservation Act.

photo courtesy of New York Zoological Society/Charles Munn



Regional endangered species staffers have reported the following news:

Region 1 — On September 17, near Eureka, California, Director Turner and

Regional Director Plenert participated in a ceremony to sign the region's first Habitat Conservation Plan for the Threatened northern spotted owl (*Strix occidentalis*

caurina). It is the largest single-owner conservation plan ever completed. The plan calls for balancing timber harvest and owl protection on approximately 380,000 acres (153,790 hectares) of private land near Arcata, California, owned by the Simpson Timber Company's Redwood Division. The plan and implementing agreement permit incidental take of up to 50 pairs of northern spotted owls over the next 10 years, require set-asides and special management areas totalling over 40,000 acres (16,200 ha), and require an extensive research and monitoring program.

* * *

On November 6, the Fish and Wildlife Service (FWS) announced that a facility being built by The Peregrine Fund, Inc., in Boise, Idaho, has been selected as the third captive breeding site for the Endangered California condor (*Gymnogyps californianus*).

A relic of the ice age, the California condor once soared over a large part of North America. By 1987, however, when the last free-flying condor was captured and placed in the captive breeding program, loss of habitat, indiscriminate shooting, and poisoning had reduced the population to only 27. Now, the number of California condors has risen to 63. Two were released to the wild in January 1992, a male and a female. The male, from the San Diego Wild Animal Park flock, died in October 1992 from poisoning that laboratory scientists attribute to ingesting fluid from an antifreeze leak. The female, produced at the Los Angeles Zoo, remains in the wild. This bird had a brush with death in July 1992, when three gunshots were fired at her. That incident is still under investigation by the FWS and the U.S. Attorney in Los Angeles.

Six more California condors, two males and four females hatched at the Los Angeles Zoo in 1992, were released to the wild in Los Padres National Forest in southern California on December 1. These condors had been housed in a holding pen at the release site since October. They were fitted with battery- and solar-powered radio transmitters on November

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Listing Proposals — November 1992

Eleven plants and one animal were proposed by the Fish and Wildlife Service (FWS) in November 1992 for listing as Endangered or Threatened. If the listing proposals are approved, Endangered Species Act protection will apply to the following:

Six Southern California Plants

Six plant taxa found in mountains surrounding the Los Angeles basin in southern California were proposed November 30 for listing as Endangered or Threatened:

- Braunton's milkvetch (*Astragalus brauntonii*) - a robust, short-lived perennial in the pea family (Fabaceae) distinguished by its height (up to 60 inches, or 150 centimeters), covering of wooly

hairs, and clusters of light purple flowers. This species, proposed for listing as Endangered, apparently is endemic to limestone outcrops.

- Lyon's pentachaeta (*Pentachaeta lyonii*) - an annual in the aster family (Asteraceae) with reddish upper branches and yellow flowers. It grows in pockets of grassland with sparse vegetative cover, and is proposed for listing as Endangered.

Dudleya spp. - Four taxa in the dudleya or live-forever genus were proposed for listing as Threatened. *Dudleya* is comprised of succulent, rosette-forming perennials in the stonecrop family (Crassulaceae) that inhabit rocky soils or rock outcrops along southern California's coast and interior mountain ranges. Due in part to the limited, patchy distribution of such sites in the Santa Monica Mountains, protection was recommended for these plants:

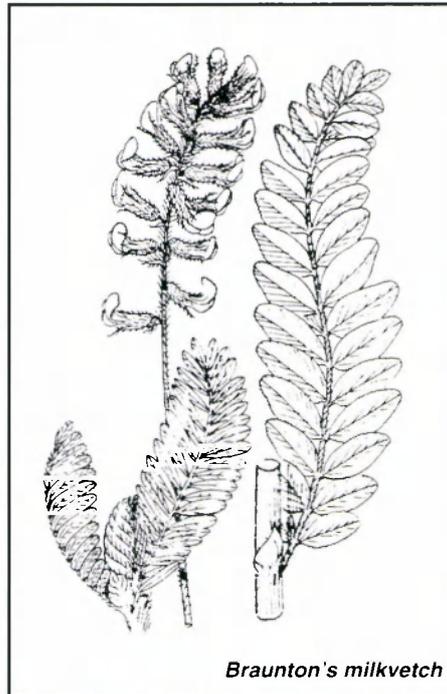
- Conejo dudleya (*Dudleya abramsii* ssp. *parva*),
- Verity's dudleya (*Dudleya verityi*),
- Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*), and
- marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*).

All six recently proposed Los Angeles basin plants are limited in distribution and numbers. Their already reduced habitat faces one or more of the following threats: urban development, recreation impacts, alteration of natural fire cycles, and flood control projects. Although some populations of these plants occur on public land, such as the Santa Monica Mountains National Recreation Area, their survival is not ensured.

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Corrections

A photograph identified on page 4 of *Bulletin* Vol. XVII, Nos. 9-11, as a pygmy madtom (*Noturus stanauli*) was actually a pygmy sculpin (*Cottus pygmaeus*). The cactus illustrated on page 8 of *Bulletin* Vol. XVII, Nos. 3-8, was a Siler pincushion (*Pediocactus sileri*).



drawing from *Illustrated Flora of the Pacific States, Vols. I-IV*, by Abrams and Ferris, courtesy of Stanford University Press

Agreement Sets Timeframe for Protecting Listing Candidates

An out-of-court settlement of a suit filed to reduce the backlog of plants and animals awaiting listing action under the Endangered Species Act was announced December 15. The agreement involves the Fish and Wildlife Service (FWS) and a number of organizations and individuals, including the Fund for Animals, Defenders of Wildlife, and In Defense of Endangered Species. Under the agreement, the Service will decide by September 1996 whether or not to publish formal listing proposals for about 400 "category 1" listing candidates.

Category 1 candidates are those for which the FWS has enough scientific

data on hand to support proposing to list but, due to other demands, has been unable to publish the necessary proposals. In effect, the agreement commits the FWS to publish listing proposals for 400 species, which is equal to the number of category 1 candidates as of October 1, 1992. If new information becomes available by September 1996 indicating that some of these candidates do not warrant listing, the FWS will substitute species that have been added to category 1 in the meantime.

The current listing priority system, which ranks species according to degree of threat and taxonomic distinctiveness,

will be used to determine which species to propose first. Approximately 100 category 1 listing candidates will be considered for listing each year under the agreement. The FWS will report annually on its progress through 1997.

The agreement also formalizes an FWS commitment to emphasize, where possible, multiple species listings or proposals that address entire ecosystems (a strategy the FWS had already been implementing) instead of a species-by-species approach. In addition to being more timely and cost-effective, these methods allow the FWS to focus on the needs of plant and animal communities as a whole.

The Duck Stamp: Making a Spectacle of a Threatened Species?

by Ann Haas

For the first time in history, a bird proposed for protection under the Endangered Species Act is featured on the Federal Migratory Bird Hunting and Conservation Stamp, popularly known as the "duck stamp." New Jersey physicist Joe Hautman's award-winning painting of a spectacled eider (*Somateria fischeri*) in flight graces the 1992-93 stamp. But there's a special message inherent in this particular stamp: to quote the Fish and Wildlife Service's (FWS) Public Affairs Officer in Anchorage, Alaska, "Don't shoot this duck!"

Waterfowl hunters aged 16 years and older are required to carry a Federal duck stamp signed across its face. The stamp indicates that they have a legal right to hunt migratory waterfowl, while the money from sale of the stamps goes into an account set aside to purchase and protect waterfowl habitat. The irony is that the duck stamp, which each year depicts a different game species of North American waterfowl, now shows one that may not be hunted. The hunting season for spectacled eiders was closed last year because of their plummeting numbers.

Although this may have concerned some hunters, it also has biologists puzzled. Routine aerial surveys of breeding pairs at the species' nesting grounds along the Arctic coast documented a dramatic decline in numbers of this large marine duck, which is native to the Arctic and northern Pacific Oceans. As a result, the Service proposed May 8, 1992, to classify the species as Threatened. (See *Bulletin* Vol. XVII, Nos. 3-9.) Biologists do not yet know the cause of the decline. "This may be an early alert for managing sea ducks," said Jean Cochrane, FWS endangered species specialist in Anchorage. "It could be 'the canary in the coal mine,' warning us of problems, and, if so, we need to act now."

Cochrane observed that the listing proposal shows management for endangered species and game species overlaps. "We need to look at the whole picture—the

spectacled eider decline may have implications for other wildlife. Is the ecosystem stressed by environmental contaminants or food web changes that can affect other species?"

Biologists are developing a plan to gather information about the spectacled eider, including analyzing its eggs and tissues for heavy metals and other contaminants, and implementing a satellite telemetry project to delineate the species' migration patterns and winter habitat. The spectacled eider is unique in that it flies west for the winter, presumably to stay near pack ice—possibly in Russia. The FWS has contacted Russian biologists to learn more about this elusive species, not yet studied away from its breeding grounds.

Stamps for Conservation

The spectacled eider is the latest bird to benefit from a process that started years ago, when the Migratory Bird Hunting Stamp Act was passed in 1934. Years of drought, drainage of marshland

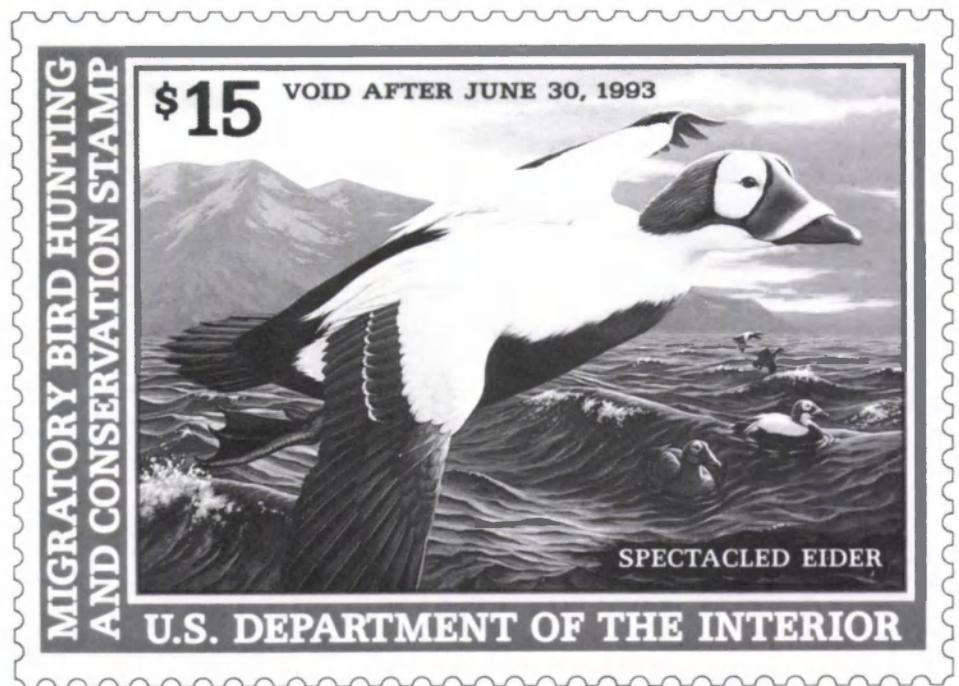


photo by Herbert Schwartz, Des Moines Register and Tribune

Jay Norwood ("Ding") Darling in 1942 at his drawing board. He used the contraction "D'ing" in signing his cartoons.

for agriculture, and overshooting had combined to reduce waterfowl populations to all-time lows. Jay Norwood "Ding" Darling, a political cartoonist

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U.S. Fish and Wildlife Service photo

The 1992-93 Federal "duck stamp" depicts a spectacled eider, proposed in 1992 for protection under the Endangered Species Act. Sales of duck stamps generate revenue for acquisition of waterfowl habitat.

“The Best Friend Ducks Ever Had”

by Ann Haas

In January 1934, Jay N. “Ding” Darling was a member of the Iowa Fish and Game Commission and a Pulitzer prize-winning cartoonist, satirizing New Deal programs as well as natural resource exploitation, when President Franklin Roosevelt appointed him to a committee charged with recommending ways to restore waterfowl, which had been devastated by the effects of prolonged drought and agricultural

drainage of potholes, lakes, and streams.

Within a matter of weeks, the committee produced its report, recommending Federal purchase of 12 million acres of submarginal land for wildlife and the expenditure of \$50 million to restore duck nesting grounds. The committee chairman was Tom Beck, editor of *Collier's* magazine and president of *More Game Birds*—later, *Ducks Unlimited*;

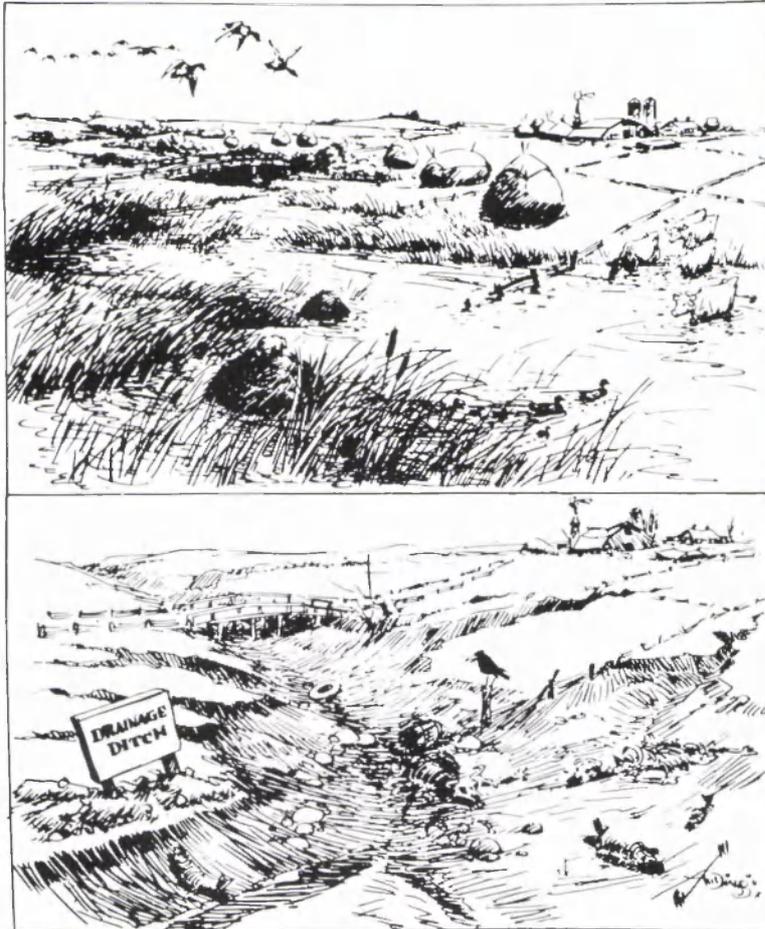
the other member was Aldo Leopold, a professor at the University of Wisconsin and the father of wildlife management.

After receiving the committee's report, President Roosevelt signed the Duck Stamp Act and appointed one of its key advocates, Ding Darling, to be Chief of the Bureau of Biological Survey, the predecessor of the Fish and Wildlife Service. Darling accepted the position as a temporary assignment, on the condition that he be free of intervention of “the hunting clubs crowd and be given funds for the Refuge program.”

Decisive and outspoken, colorful and honest, Ding Darling was a complex figure. A critic of big government, he was committed to a union of Federal resources with conservation groups in a cooperative approach to wildlife management. Darling rejuvenated the agency in just 20 months as its Chief. The stimulus he gave to the national wildlife refuge program may be his greatest achievement. The investment in wetlands acquisition and restoration benefits a wide variety of wildlife, including many Endangered species. Because of his success in protecting waterfowl habitat in the difficult Dust Bowl days, Ding Darling has been called “the best friend ducks ever had.”

Prior to his time in Washington, Ding Darling established the first Cooperative Wildlife Research Unit at Iowa State College, uniting the private sector, the college, and the State fish and game department in research and training programs in 1932. Under the leadership of Professor Aldo Leopold, the Unit devel-

“How Man Does Improve on Nature”



cartoon courtesy of the Jay N. Ding Darling Conservation Foundation

Habitat destruction, particularly the drainage of wetlands, is a concern today, as it was in the 1930's when Ding Darling drew this cartoon. Ding used cartoons to elevate natural resources conservation to the national agenda, from which land stewardship programs such as the Farm Bill and the Water Bank evolved.

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Duck Stamp

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whose art promoted awareness of the plight of wildlife, used his influence to help enact the legislation. Passage of the Act established one of the first land stewardship programs to conserve soil and water for wildlife.

Proceeds from the sale of duck stamps are deposited into the Migratory Bird Conservation Fund, providing a continuous source of money for acquiring and restoring habitat located strategically along bird flyways. This habitat becomes part of the National Wildlife Refuge System, which now encompasses more than 90 million acres for waterfowl and other wildlife.

"Hunters historically have paid for National Wildlife Refuges," said Barbara Wyman, Acting Chief of the FWS Duck Stamp Office, "by buying duck stamps that have helped acquire 4 million acres of land benefitting waterfowl and a whole range of wildlife, including endangered species. In recent years, though, the number of hunters declined, and if we are not to depend on appropriations, we'll have to continue to broaden the duck stamp's constituencies, by expanding our partnerships with stamp collectors and the conservation community. Congress recognized this when it passed a 1976 law officially naming the stamp the Migratory Bird Hunting and Conservation Stamp."

Sales of duck stamps declined during most of the 1980's, partly because low waterfowl population levels attracted fewer hunters. "Improved weather patterns—that is, more snow and rain—in parts of the important prairie breeding grounds of the northern United States and southern Canada give us hope for better habitat conditions and more birds," says Bill Vogel of the FWS Migratory Bird Management Office. "In general, breeding populations of ducks have increased in the past two years, but are still 8 percent below the long-term average. We support the duck stamp program as a means of protecting habitat to ensure that the trend of increasing waterfowl populations continues."

Art for Conservation

In 1934, Ding Darling sketched the first duck stamp, initiating the use of art to benefit conservation. From 1934 to 1949, the government commissioned an artist to create a new duck stamp each year. After that time, thanks in large part to FWS artist Bob Hines, an annual contest determined the art work. The duck stamp contest is the only federally sponsored art competition.

In 1991, when Joe Hautman chose to enter the contest, he selected one of the five species eligible for depiction in that year's competition. But when his painting of the spectacled eider was judged the best of 585 entries, he received no money. His "prize" was a sheet of duck stamps and the recognition that comes with winning the prestigious contest. Hautman's renown as a wildlife artist will enable him to sell signed and numbered prints of his design. Joe's brother, Jim, won the duck stamp contest in 1989

with his painting of black-bellied whistling ducks (*Dendrocygna autumnalis*). By 2002, all North American waterfowl species will have been depicted on Federal duck stamps.

Buying a duck stamp is an easy way for everyone — hunters and non-hunters alike — to actively support wildlife habitat protection. The spectacled eider duck stamp has been on sale since July 1, 1992, for \$15 at post offices, national wildlife refuges, and FWS offices throughout the country. Stamps not sold within 3 years will be recalled by the Treasury Department to limit the number in circulation and enhance their value. A complete collection of the 59 annual duck stamps, with a face value of \$242, is now worth more than \$4,000.

Ann Haas is a member of the *Bulletin* staff.

A Duck's Best Friend

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oped a 25-year conservation plan for Iowa that has served as a model of long-term planning for other States.

In 1935, Darling instituted the strictest waterfowl hunting regulations that had ever been seen. They prohibited baiting, banned the use of live decoys and shotguns holding more than 3 shells, and reduced waterfowl seasons and bag limits. In response to complaints, Darling said, "The regulations will stay as long as they are needed to bring back the ducks; and if tougher restrictions will help the cause, we'll find some tougher restrictions."

In addition to drawing the art work of two mallards that graced the first Duck Stamp, Ding Darling designed the flying goose emblem for the National Wildlife Refuge System.

During 49 years as an artist, Darling drew 15,000 cartoons, using what Rube Goldberg called "gentle ridicule" on political subjects and environmental

issues such as soil erosion, habitat destruction, water pollution, the importance of hunter ethics, and world population growth. A syndicated cartoonist whose work was published in 100 newspapers, Ding Darling was nationally known to readers who eagerly turned to see what he said each day. He was awarded Pulitzer prizes in 1924 and 1942 for cartoons that depicted the American Dream and satirized government paperwork. In a 1930 cartoon about the threatened extinction of the Florida key deer (*Odocoileus virginianus clavium*), Darling identified the need for protecting endangered species.

Ding Darling's grandson, Christopher Koss, is President of the Darling Conservation Foundation, established shortly after Ding's death in 1962 to continue his work. It sponsors scholarships in conservation and communication, two fields that Ding Darling regarded as complementary.

Report to Congress Lists Fiscal Year 1991 Expenditures for Endangered Species

The Fish and Wildlife Service (FWS) has published its third annual report to Congress summarizing "reasonably identifiable" species-by-species expenditures by Federal and State agencies to conserve Endangered and Threatened animals and plants.

Expenditures of approximately \$176.8 million in fiscal year (FY) 1991 were reported by Federal and State agencies specifically for the conservation of 570 species, which comprise 89 percent of the listed animals and plants in the United States. The amounts spent ranged from a high of over \$24 million for the bald eagle (*Haliaeetus leucocephalus*) to a low of about \$100 for a Florida cactus, the fragrant prickly apple (*Cereus eriophorus* var. *fragrans*).

Seven species (about 1 percent of the total) account for just over one-half of the

reported FY 1991 expenditures, and the top 55 species received about 90 percent of reasonably identifiable funding. The 10 species with the highest totals are the bald eagle (\$24.6 million); Florida scrub jay (*Aphelocoma coerulescens coerulescens*; \$19.7 million); West Indian (Florida) manatee (*Trichechus manatus*; \$15.3 million); northern spotted owl (*Strix occidentalis caurina*; \$12.8 million); red-cockaded woodpecker (*Picoides borealis*; \$7.0 million); American peregrine falcon (*Falco peregrinus anatum*; \$5.9 million); chinook salmon (*Oncorhynchus tshawytscha*; \$5.4 million); Florida panther (*Felis concolor coryi*; \$4.6 million); grizzly or brown bear (*Ursus arctos*; \$3.8 million); and Colorado squawfish (*Ptychocheilus lucius*; \$3.7 million). The Schaus swallowtail butterfly (*Heraclides aristodemus ponceanus*) is the highest ranked

invertebrate in reported expenditures (#29 at \$1.3 million) and the scrub plum (*Prunus geniculata*) is the highest ranked plant (#42 at \$0.7 million).

Refinements in accounting and reporting procedures limit the comparability of the FY 1991 report to earlier versions. For example, the increase from FY 1990 is attributable mostly to more complete data furnished by State agencies and to increased habitat acquisition. Large annual variations in the amounts reported for individual species may reflect high-cost expenditures, such as habitat acquisitions, that are not part of normal, ongoing conservation efforts.

Copies of the FY 1991 expenditures report are available from the Publications Unit, U.S. Fish and Wildlife Service, 130 WEBB, Washington, D.C. 20240.

Listing Proposals

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Two Central California Plants

In a separate November 30 action, two plant species native to central California were proposed for listing as Endangered:

- **Hartweg's golden sunburst** (*Pseudobahia bahiifolia*) - a small, sparsely branched annual in the aster family covered with white, wooly hairs. The bright yellow flower heads are solitary at the ends of the branches. This species is strongly associated with shallow, well-drained, medium-textured soils containing short, wide mounds interspersed with shallow basins that collect water during the rainy season. Its current range is within Stanislaus, Madera, and Fresno Counties in the eastern San Joaquin Valley.

- **San Joaquin adobe sunburst** (*Pseudobahia peirsonii*) - a related, somewhat taller plant that also has yellow flower heads and a covering of white hairs. It

occurs only in grasslands on deposits of heavy adobe clay soils in Madera, Fresno, and Kern Counties in the eastern San Joaquin Valley.

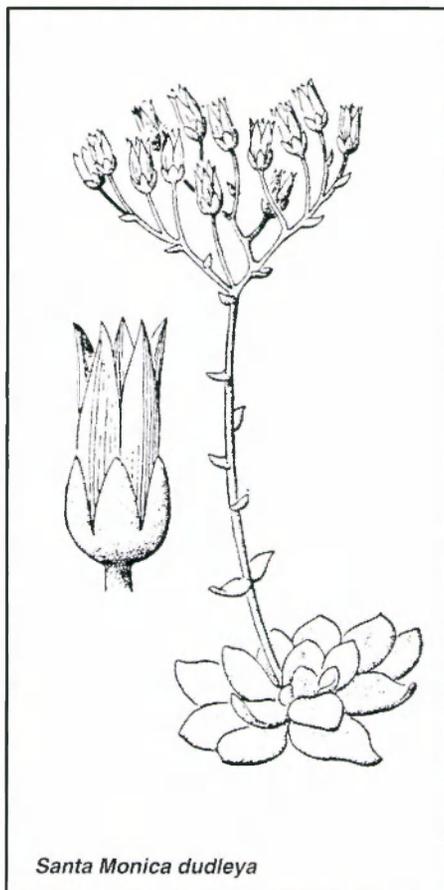
The rare plants of this region are vulnerable to a wide variety of threats, including conversion of habitat to agricultural uses, overgrazing, urbanization, water projects, recreational developments (e.g., golf courses), mining, off-road vehicle use, maintenance of electricity transmission lines, and competition from non-native plants. Most of the sites occupied by *P. bahiifolia* and *P. peirsonii* are privately owned.

Three Puerto Rican Ferns

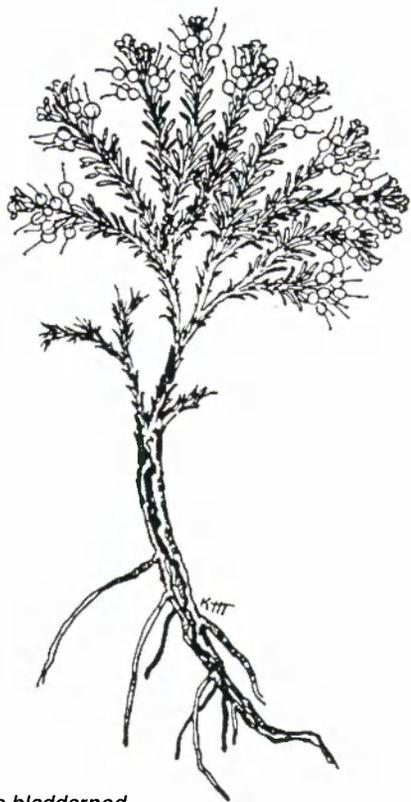
Three species of terrestrial (ground-dwelling) ferns endemic to the island of Puerto Rico were proposed November 9 for listing as Endangered. All three are in the genus *Thelypteris* and are members of the marsh fern family (Thelypteridaceae):

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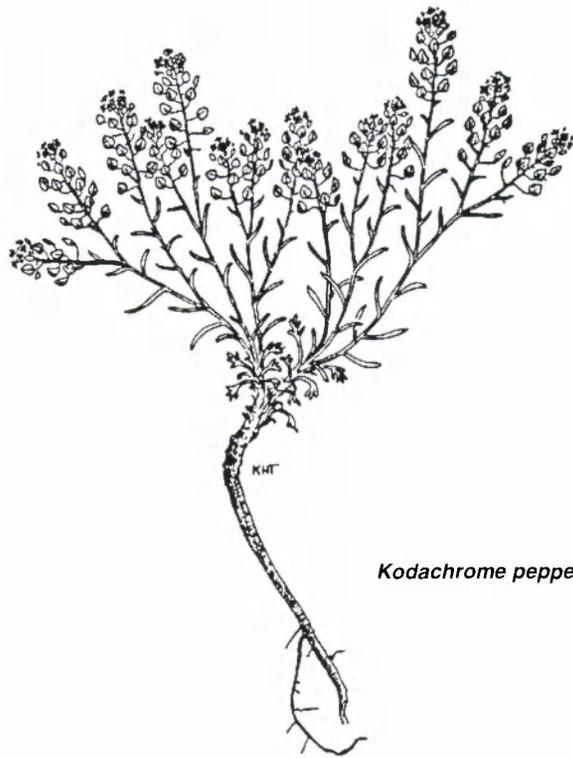
drawing from *Illustrated Flora of the Pacific States*, Vols. I-IV, by Abrams and Ferris, courtesy of Stanford University Press



Santa Monica dudleya



Kodachrome bladderpod



Kodachrome pepper-grass

drawing by Kaye H. Thorne, reprinted from Utah Endangered, Threatened, and Sensitive Plant Field Guide

Listing Proposals

(continued from page 7)

- *T. inabonensis* - 46 individual plants are known from 2 locations, including a site in Toro Negro Commonwealth Forest.
- *T. verecunda* - only 22 individuals are known to occur at 3 locations.
- *T. yaucoensis* - about 65 plants exist at the 3 known sites.

Because of their very low numbers and limited distribution, these ferns are vulnerable to extinction from any further habitat destruction or modification. Two of the species (*T. verecunda* and *T. yaucoensis*) are known only from privately owned lands. Although *T. inabonensis* occurs within Toro Negro Commonwealth Forest, the small populations could be affected by forest management practices and collection.

Two Utah Plants

Two plant taxa endemic to a small area of desert shrubland in southern Utah were proposed November 3 for listing as Endangered. Both are perennial herbs in the mustard family (Brassicaceae):

- Kodachrome bladderpod (*Lesquerella tumulosa*) - a low-growing, densely-branched plant forming hemispheric clumps or cushions that are covered with small yellow flowers during the blooming season.

- Kodachrome pepper-grass (*Lepidium montanum* var. *stellae*) - a variety with short stems arising from woody caudex, and topped by clusters of tiny white flowers.

Both species are restricted to adjacent tracts of land in northern Kane County administered by the State of Utah and the Bureau of Land Management. Only a single population of each plant is known. The area is subject to leasing for oil and gas, and habitat disturbance during energy development is one threat to the proposed plants. Portions of the habitat already have been damaged by prospecting and excavating for gravel and clay. The site also is highly vulnerable to degradation from off-road vehicle use. Sheep and cattle grazing may have had an impact on these species historically, but it is not considered a significant threat at current levels.

Arizona Willow (*Salix arizonica*)

A shrub in the family Salicaceae, the Arizona willow grows in forms ranging from prostrate mats to large thickets or hedges. Among the plant's distinguishing characteristics are its fine-toothed, shiny leaves and its bright red stems that turn olive-gray with age. This species is found only on the slopes of Mount Baldy, the highest peak in the White Mountains of east-central Arizona.

Arizona willows grow at elevations of 8,500 feet (2,500 meters) and above in riparian habitats, specifically wet meadows, stream edges, and cienegas (a southwestern term for a permanently wet marsh or meadow-like wetland). Extensive surveys have found the species in only 15 stream drainages. Its range is within the Apache-Sitgreaves National Forest and the White Mountain Fort Apache Indian Reservation.

Threats to the Arizona willow include habitat damage from livestock grazing in riparian meadows. Cattle in this sensitive habitat affect soil compaction, hydrology,

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photo by Susan Rutman

Arizona willow

Listing Proposals

(continued from previous page)

stream bank stabilization, and siltation. Repeated overuse results in reduced plant vigor and reproductive success. In addition, the Arizona willow is affected by the spread and perpetuation of non-native grasses introduced for livestock forage. Another possible cause of erosion and siltation in the species' limited habitat is timber harvesting and related activities, such as road construction. In addition, a naturally occurring plant disease identified as a rust (*Melampsora* spp.) has attacked some of the remaining willows, weakening them and making them more susceptible to other threats.

Because of the Arizona willow's restricted distribution, low numbers, and vulnerability, the FWS proposed November 20 to list the species as Endangered. A proposed designation of Critical Habitat would incorporate 16 areas of high-altitude riparian habitat along streams or cienegas on the slopes of Mount Baldy. Maps of the areas are available in the November 20 *Federal Register*. If the Critical Habitat designations are adopted, Federal agencies will be responsible for avoiding any adverse modifications to these areas.



photo by Greg Ballmer

The Delhi Sands flower-loving fly uses its long proboscis to feed on wildflower nectar.

Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*)

Like a butterfly, the Delhi Sands flower-loving fly pollinates phlox and other wildflowers while it feeds on their nectar by means of a long, thin tubular proboscis. Its ability for hovering flight is similar to that of a hummingbird. On November 19, this large, orange-and-black-striped insect became the first fly proposed formally for Endangered Species Act protection. Although it would be listed as a subspecies, this fly is believed to be the only surviving member of its species; the last El Segundo flower-loving fly (*R. t. terminatus*), the only other subspecies, was sighted in the 1960's.

Known only from sparsely vegetated habitat in areas of the Delhi Sands geological formation in southern California, *R. t. abdominalis* has been eliminated from all but a tiny portion of its former range. Five colonies remain on a total of 350 to 700 acres (140 to 280 hectares) of private land in southwestern San Bernardino and northwestern Riverside Counties. Most of the species' habitat has been converted to vineyards and citrus groves since the 1800's. Less than 3 percent remains, and it is vulnerable to sand mining, off-road vehicle use, encroachment by non-native plants, and residential, commercial, and industrial development.

The Endangered Species Act applies to insects and other invertebrates as well as

to more charismatic animals. Although Section 3(6) of the Act excludes insects that "...constitute an overwhelming and overriding risk to man...", the Delhi Sands flower-loving fly is not a pest species and poses no such risk. It can survive only in its natural habitat.

Available Conservation Measures

Among the conservation benefits authorized for Threatened and Endangered plants and animals under the Endangered Species Act are: protection from adverse effects of Federal activities, restrictions on take and trafficking, a requirement that the Service develop and carry out recovery plans, authorization to seek land purchases or exchanges for important habitat, and Federal aid to State and Commonwealth conservation departments that have approved cooperative agreements with the Service. Listing also lends greater recognition to a species' precarious status, which encourages other conservation efforts by State and local agencies, independent organizations, and concerned individuals.

Section 7 of the Act directs Federal agencies to use their legal authorities to further the purposes of the Act by carrying out conservation programs for listed species. It also requires these agencies to ensure that any actions they fund, authorize, or carry out are not likely to jeopardize

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Listing Proposals

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dize the survival of an Endangered or Threatened species or to adversely modify its designated Critical Habitat (if any). If an agency finds that one of its activities may affect a listed species, it is required to consult with the Service to identify ways to avoid jeopardy and minimize adverse impacts on Critical Habitat. For species that are proposed for listing and for which jeopardy is found, Federal agencies are required to "confer" with the Service, although the results of such a conference are not legally binding.

Additional protection is authorized by Section 9 of the Act, which makes it illegal to take, import, export, or engage in interstate or international commerce in listed animals except by permit for certain conservation purposes. The Act also makes it illegal to possess, sell, or transport any listed species taken in violation of the law. For plants, trade restrictions are the same but the rules on "take" are different. It is unlawful to collect or maliciously damage any Endangered plant on lands under Federal jurisdiction. Removing or damaging listed plants on State and private lands in knowing violation of State law or in the course of violating a State criminal trespass law also is illegal under the Act. In addition, some States have more restrictive laws specifically addressing the take of State or federally listed plants and animals.

Publications

Virginia's Endangered Species, a book produced in cooperation with the Virginia Departments of Game and Inland Fisheries, Agricultural and Consumer Services, and Conservation and Recreation, along with the Virginia Museum of Natural History, is an up-to-date (summer 1991) reference on the State's rare and vulnerable plants and animals. The 672-page volume includes the following for each species covered: a description of the taxon; a written summary and a map of its distribution; an overview of its natural history; a synopsis of its legal and recommended statuses; a discussion of threats to its survival in Virginia; and conservation recommendations. Most taxa are illustrated with color plates. The book is available for \$59.95 (clothbound) or \$32.95 (paper), plus \$2.50 for shipping and handling and 4.5 percent sales tax for Virginia residents, from The McDonald & Woodward Publishing Company, P.O. Box 10308, Blacksburg, Virginia 24062-0308 telephone 703/951-9465. Royalties go to the Virginia Non-game and Endangered Species Fund to support future conservation efforts.

Nature Reserves: Island Theory and Conservation Practice, by Craig L. Shafer, an ecologist with the National Park Service, reviews the literature on island biogeography and synthesizes some guidelines from controversial theories. It addresses the current status of nature reserves, informa-

tion from field surveys, and results of conservation trials. The scope of the analysis includes ecology, biogeography, evolutionary biology, genetics, and paleobiology, as well as relevant legal, social, and economic issues. This 208-page, illustrated book is available for \$39.95 in cloth or \$15.95 in paper from the Smithsonian Institution Press, Department 900, Blue Ridge Summit, Pennsylvania 17294-0900 (telephone 800/782-4612 or 717/794-2148).

Please include \$2.25 postage and handling for the first book and \$1.00 for each additional copy.

The Expendable Future: U.S. Politics and the Protection of Biological Diversity, by Richard Tobin, is an evaluation of the politics of biological diversity and of State and Federal endangered species policies from the early 1960's to the present. The 336-page volume includes discussions of the listing process, the way resources are allocated in relation to priority, and current recovery programs. It is available from the Duke University Press, Dept. H1.W, 6697 College Station, Durham, North Carolina 27708, for \$18.95 in paperback or \$45.00 in cloth, plus \$2.00 for U.S. shipping and handling (or \$3.00 for international orders).

Notices in the New Publications column are presented for information purposes only. The mention of non-Federal publications does not imply concurrence with their contents or with the philosophies of the authors.

Cave Invertebrate is Listed as Endangered

The Lee County cave isopod (*Lirceus usdagalum*), a small aquatic crustacean endemic to a single cave system in southwestern Virginia, was listed November 20, 1992, as an Endangered species. This eyeless, unpigmented animal is vulner-

able to extinction because of its very restricted range and potential threats to water quality within the cave recharge area. It has already been eliminated from one other cave system due to pollution from a nearby sawmill.

The Nature Conservancy has negotiated a conservation agreement with one of the landowners, and the Fish and Wildlife Service (in conjunction with the Virginia Department of Game and Inland Fisheries) is working with the same individual to protect the species.

Tyronia alamosae and Geronimo

by Jerry Burton



photo by Dana B. Chase, courtesy of Museum of New Mexico

Apache family at Ojo Caliente, New Mexico, around 1890

In 1991, the Alamosa springsnail (*Tyronia alamosae*), a tiny mollusk endemic to a few interconnected springs in an isolated area of New Mexico, was listed by the Fish and Wildlife Service as an Endangered species. Although some people may find it difficult to get excited about a snail the size of a poppy seed, there is an interesting story that relates to the springs in which it lives.

The year was 1909, when the U.S. Government asked leaders of a small band of western Apaches, held as prisoners of war since 1886, where they wanted to be set free. These people were remnants of a band of Apaches that in 1877, under the leadership of Victorio and later Geronimo, went to war when the continuing invasion of "white-eyes" into their homeland became too much to bear. In 1886, they surrendered to the U.S. Army at Skeleton Canyon, Arizona, and for the next 27 years were prisoners of war at various military posts in the southeastern U.S. By 1909, few who remembered their homeland in the mountains of New Mexico remained. Most of

the survivors were descendants that had been born into captivity. But they had been told by their elders about the place where they once lived. To those who had never seen it, and only knew the southeast, the homeland must have sounded like a strange place, with mountains, deserts, and vast forests of ponderosa pine.

One area the survivors had often been told about, a sacred place where they had always known peace and happiness, was the canyon and warm springs of the Rio Alamosa, or Ojo Caliente. This was the homeland of the Teihene, or "Red Paint," band of Apaches. Such famous Apache leaders as Victorio, Nana, Mangas Coloradas, and Geronimo had been born in this region. Countless generations of Apaches had drunk from the springs and bathed in the warm waters.

These thermal springs also are the sole habitat of the Alamosa springsnail. Although broken bits of pottery, arrowhead chips, and pithouse foundations provide evidence that various tribes have occupied the area over time, no doubt the snails were there first.

In 1911, a delegation of five Apaches from Fort Sill, Oklahoma, accompanied by Colonel Hugh L. Scott, traveled to New Mexico to inspect the springs and determine if the Apaches wanted to return to their homeland. After their visit, the scouting party reported back to the rest of the band that the springs were dry and the land barren. To a present day biologist, this seems impossible because of the presence of the snails, fish, and other aquatic life found at the springs. Also, the flow of water from the springs has never been less than 6 cubic feet per second during the 23 years they have been monitored by the U.S. Geological Survey.

What happened on that October day in 1911 when the survivors of Geronimo's band were taken to Ojo Caliente? No one knows. The answer may be lost to history. However, this much seems clear: the springs were not dry.

Today, the springs are probably much the same as they were in Geronimo's day. The outflows have been dammed to create pools where occasional visitors soak in the warm water. Ruins of Fort Harmony, located on a slight rise across the dry river bed from the springs, are slowly eroding into oblivion, and there are cattle where Indian and U.S. Cavalry horses once grazed. The springs continue to supply water to the Monticello Irrigation District, much the same as they have done for the past 127 years. The water provides life for acres of chilies that turn bright red under the New Mexico sun.

In the past, men have killed to keep the water flowing. In the future, people may (if plans by the National Park Service materialize) visit a national monument at Ojo Caliente to learn of its rich history. Perhaps they will also learn something about the unique wildlife found there, including tiny *Tyronia alamosae*.

Jerry Burton is a biologist in the Fish and Wildlife Service's Albuquerque, New Mexico, Regional Office

Landmark Legislation

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Immediate Moratorium

International trade in birds listed on Appendix I of CITES is already restricted. The new law supplements this protection with an immediate moratorium on U.S. importation of 10 heavily traded species of wild psittacines that have been on CITES Appendix II (2 of which were moved to the more restrictive Appendix I at the March 1992 CITES meeting). Among the birds protected under this importation ban are such well-known species as Fischer's lovebird (*Agapornis fischeri*).

Phased Moratorium and "Approved Imports" List

Under the WBCA, U.S. imports of *all* CITES-listed birds will be prohibited on October 22, 1993, except for any species included on an "approved" list published by the U.S. Fish and Wildlife Service (FWS) in the *Federal Register*. This list may approve wild-caught birds on a species-by-species basis according to their country of origin; for captive-bred birds, the list may approve specific breeding facilities.

For *wild-caught* CITES-listed birds to be on an approved list, the FWS must determine that: 1) CITES is being effectively implemented for the species in each country of origin; 2) measures recommended by CITES committees are implemented; 3) there is a scientifically-based management plan that provides for the conservation of the species and its habitat; and 4) the methods of capture, transport, and maintenance minimize risks to the birds' health and welfare. For *captive-bred* birds, the FWS is required to determine that either: 1) *only* captive-bred birds are in trade for that species or 2) the birds were bred in an FWS-approved facility.

Until October 22, 1993, one year from the law's signature, there is a maximum number of birds of any CITES-listed species that can be imported (except for those included in the immediate moratorium). That quota is equal to the

number imported during the last year for which the FWS has complete data (1991).

Emergency Authority

In emergency situations, the FWS now has authority to suspend imports of any CITES-listed bird species immediately, based on a series of criteria specified in the WBCA.

Trade Reviews

The FWS is required to review trade in all non-CITES birds and establish an import moratorium on any species, by country of origin, if the country is found not to have a management program that ensures their conservation and humane treatment. In order to make these assessments, the FWS has published a call for information on the management plans of all countries that export their birds.

Humane Treatment

CITES requires that before an export permit is issued, a country must be satisfied that animals are prepared and transported humanely, but this requirement is all too often ignored. Experts estimate that for every imported bird offered for sale in a pet store, up to five died along the way.

In a recent 5-year period, 193,733 birds died while in transit to the U.S., and another 584,364 died while in quarantine or were refused entry because of Newcastle Disease, which is fatal to poultry. In other words, in 5 years more than 3/4 of a million birds either were dead on arrival in the U.S. or died within the first 30 days of quarantine. Mortality between capture and export is reported to be even higher, due to the initial shock of capture and caging, although good data are lacking on pre-transport deaths. When birds die due to improper capture and handling, additional birds are taken from the wild to meet the trade demand, thus posing an even greater threat to the conservation of these species.

Many countries, including Australia, Bolivia, Brazil, Honduras, India, Mexico, and Zimbabwe — as well as the U.S. —

do not allow the export of their native wild birds for the pet market. Unfortunately, many countries in the developing world that choose to export their birds lack the means to design and implement effective, scientifically based management plans.

The countries exporting the most wild birds to the U.S. have been (in order of export volumes) Argentina, Senegal, Tanzania, and Indonesia. Each has exported more than 25,000 CITES-listed birds to the U.S. every year. In passing the WBCA, the U.S. is making a commitment to assist these countries in bringing their wildlife trade to sustainable levels and in scientifically managing their wild bird populations.

Conservation Fund

A critical feature of the WBCA is the authorization of an Exotic Bird Conservation Fund, money for which will come from penalties, fines, forfeitures, donations, and appropriations. The fund is designed to support wild bird research and management programs where they are most needed — in the countries of origin. Such a fund, modeled after the highly successful African Elephant Conservation Fund, has excellent potential to benefit conservation efforts in developing countries. The WBCA also authorizes the appropriation of up to \$5,000,000 for fiscal years 1993-1995 to implement the act and support the Exotic Bird Conservation Fund.

Enforcement

The WBCA establishes significant penalties for violators, including civil penalties up to \$12,000 for some infractions and up to \$25,000 for others, as well as misdemeanor and felony criminal penalties. It authorizes various enforcement activities, including issuance of warrants, injunctions, and search and seizure of contraband, guns, traps, nets, vessels, and vehicles.

Petition Process

The WBCA establishes a petition process whereby any person or organization

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Landmark Legislation

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may submit a petition to the FWS to establish, modify, or terminate any prohibition or suspension under the Act.

* * *

Background

The WBCA represents a consensus across a broad range of interests. In addition to the strong support of the FWS, this law received the support of a coalition of conservation, scientific, animal welfare, zoological, and trade organizations. It applies to the importation of all bird species not indigenous to the 50 United States and the District of Columbia, while exempting from its provisions game bird families and orders (Phasianidae, Anatidae, Struthionidae, Rheidae, Gruidae, etc.).

The WBCA in no way restricts the right of people to keep exotic birds as pets; these animals can provide companionship for many years when cared for properly. But the WBCA, and FWS support for it, recognize the harm caused by uncontrolled trade and high mortality in transport.

Support for WBCA has been strong in part because the Endangered Species Act, which implements CITES, does not provide a mechanism to guarantee the conservation of wild birds imported commercially. The Endangered Species Act comes into play only after a species' population status has been seriously harmed. But it is best to avoid such harm rather than try to remedy the situation after it may be too late.

Our goal is to manage the trade appropriately *before* species become threatened.

Prior to passage of the WBCA, there was no authority to restrict imports of a species, even when it was known that the trade is detrimental to the species' survival or that there are not enough scientific data on whether trade is sustainable or not. With the WBCA, we now have the authority to control imports, albeit only for birds.

A copy of the WBCA text, a brief fact sheet, and a *Federal Register* notice announcing the import quotas for CITES species are available from the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Rm. 432, Arlington, VA 22203.

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25 and given final health examinations by zoo veterinarians. The female condor already in the wild was observed to spend time with the six birds while they were being held at the release site, and biologists believe its behavior will serve as an excellent role model for the second-year condors.

The remaining 56 birds are in captive breeding programs at the San Diego Wild Animal Park and the Los Angeles Zoo, which are both expected to reach capacity in 1993. The new captive breeding facility in Idaho, expected to be completed by late July 1993, will be suitable for 10 pairs of condors. It will be the first breeding facility for condors outside California and the first to be built in a decade.

The Peregrine Fund is a non-profit conservation organization created in 1970 to save the peregrine falcon (*Falco peregrinus*). Peregrine Fund personnel will use captive breeding techniques that have proved successful with the peregrine falcon to breed the California condor.

These techniques also have been applied successfully to the northern aplomado falcon (*Falco femoralis septentrionalis*), harpy eagle (*Harpia harpyja*), and Mauritius kestrel (*Falco punctatus*).

* * *

Midwater trawl sampling, conducted annually during the months of September through December by the California Department of Fish and Game, provides an abundance index for the adult delta smelt (*Hypomesus transpacificus*) population of the Sacramento-San Joaquin River Estuary. The delta smelt has been proposed for listing as Threatened. Preliminary results of midwater trawls for delta smelt in September and October 1992 indicate that the current year class of this species is considerably smaller than the 1991 class. As a comparison, the index for September 1991 was 126; in September 1992 it was 71.5. The October 1991 index was 249.2; in October 1992 it was 3.5, the second lowest index in the 26-year history of this population survey. The 80 midwater trawls conducted during October 1992 collected only two delta smelt.

* * *

Region 2 — The 1992 least tern (*Sterna antillarum*) census counted about 1,000 interior least terns along 700 miles (1,125 kilometers) of Oklahoma rivers. Personnel from the FWS, Oklahoma Department of Wildlife Conservation, Army Corps of Engineers, and Oklahoma State University counted approximately 985 of these Endangered birds from airboats and helicopters, and by walking specific routes.

Historically, this species was distributed over the entire Mississippi River drainage basin, but the birds now occur only in parts of their former range. The terns breed and nest on river sand bars and islands in Oklahoma from May to August. However, in recent years, reservoir construction, stream channelization, and agricultural demands on water have significantly reduced the quantity and quality of the species' nesting habitat.

Although degradation of prime nesting habitat appears to be causing these birds to concentrate in certain locations, the number counted in the annual census has remained relatively stable for the past 3 years. The highest number of least terns

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1992 CITES Amendments Strengthen Protection for Endangered and Threatened Wildlife and Plants

by Susan S. Lieberman

(Part 1 of 2)

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty designed to control international trade in certain animal and plant species that are, or may become, threatened with extinction. CITES members, or Parties, meet at least every 2 years to review the treaty's implementation and make any necessary changes. The Eighth Conference of Parties (COP8) was held in Kyoto, Japan, on March 2-13, 1992.

The meeting attracted a large amount of press and world attention because of dominant issues relating to the African elephant, bluefin tuna, mahogany, and the wild bird trade. COP8 attendees included 101 of the 112 countries that were Parties at the time of the meeting, along with observers from 5 nonparty countries, the United Nations Environment Programme, the European Economic Community, and 155 other national and international organizations. This was the largest number of countries and non-governmental organizations (NGOs) to ever attend a CITES conference.

Background

CITES regulates international trade in plants and animals in varying degrees, depending on their biological status and vulnerability to commercial exploitation. Three appendices to CITES identify how much protection is provided to each species. Appendix I contains species threatened with extinction that are, or may be, affected by international trade. Commercial trade in these species is prohibited. Appendix II includes species that may become threatened if their trade is not brought under control. Commercial trade in Appendix II species is subject to regulation, and is allowed only if export permits are issued based on scientific findings that trade will not be detrimental to the species. Appendix III includes species that individual CITES Parties

identify as subject to domestic regulations for the purpose of restricting or preventing exploitation. Permits or certificates of origin are required for trade in Appendix III species.

The U.S. Fish and Wildlife Service (Service) undertook an extensive public involvement process, with calls for public comment published in the *Federal Register* along the way, to establish the United States' negotiating positions for COP8. The Service's regulations governing this public process are found in Title 50 of the Code of Federal Regulations §§23.31-23.39. All of the *Federal Register* notices are available from the Service's Office of Management Authority (OMA) upon request.

General Outcome of COP8

Altogether, 153 species proposals and 35 resolutions were submitted by the Parties for consideration at COP8, more than at any other CITES meeting. The CITES Parties adopted 23 different resolutions dealing with a broad range of CITES implementation and enforcement issues (see below). For animal species, 14 taxa were removed from the Appendices, 24 were either added to Appendix II or moved from Appendix I to II, and 12 were added to or moved to Appendix I. For plant species, 5 taxa were removed from the Appendices, 13 were either added to Appendix II or moved from Appendix I to II, and 9 were added to or moved to Appendix I.

A list of those resolutions adopted by COP8, a summary of species proposals adopted, and a list of attendees are available from OMA on request. In a few months, OMA will also have available its official Delegation Report on COP8.

CONFERENCE RESOLUTIONS ADOPTED:

The CITES Parties adopted 23 different resolutions, based on detailed and of-

ten intense discussions of a broad range of enforcement, implementation, and interpretation issues. Resolutions of particular interest include those directly related to enforcement, commerce in heavily traded wild-caught animals, trade in birds experiencing high mortality in transport, and a universal tagging system for crocodilian skins in trade.

Enforcement: Review of Alleged Infractions

For every CITES meeting, the CITES Secretariat prepares an Infractions Report, which details instances that the Convention is not being effectively implemented or enforced. The Infractions Report presented at COP8 included 138 alleged infractions and 54 recommendations with detailed information. This report was the product of the first term of a full-time Enforcement Officer in the Secretariat, who was made available by the Service's Division of Law Enforcement.

Several resolutions were developed as a result of the Infractions Report. One involved national legislation implementing CITES. Because they lack adequate national legislation, many countries cannot fully implement CITES, which requires them to take appropriate measures to enforce regulations on trade. Some Parties have been members for many years and still cannot fully implement CITES, resulting in a serious threat to many species. This resolution directs the Secretariat to identify Parties that do not have adequate legislation.

A second enforcement resolution involved annual report submission, which is a basic CITES requirement. Annual reports provide valuable information on trade, and it is very important that all Parties submit accurate reports to help in the identification of any illegal trade. There are 13 Parties that did not submit any annual reports for the last 3 years and

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CITES Amendments

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18 other Parties that did not submit annual reports for 1 or 2 years. This resolution requires CITES to take appropriate action against Parties that do not submit their annual reports by October 31 following the year for which the report was due.

Trade in Birds: Significant Trade Species

The trade in live wild-caught birds is an issue of great concern to the U.S. and other CITES Parties because the trade in many bird species listed in Appendix II may be detrimental to their survival. The U.S. asked that this issue be placed on the COP8 agenda. It submitted two related resolutions in order to discuss trade in species that were identified by previous COPs as subject to significant trade and possibly at risk. The U.S. supports the sustainable use of wildlife, including wild-caught birds, but is opposed to use that is not known to be sustainable. The issue of wild bird trade is particularly critical since trade is continuing at high levels in many species that have been identified as potential problems for over 5 years.

The U.S. resolution called for a suspension of commercial trade in wild bird species listed in Appendix II that are identified as "significant trade" species for which either there is insufficient information on which to base a nondetriment finding or for which remedial measures have been recommended but not implemented. This proposed resolution also would have authorized the CITES Standing Committee to recommend the removal of species from the list of those suspended from trade.

The U.S. urged COP8 to recognize that the first phase of "significant trade" had been going on for 6 years; the species were identified and the Parties had agreed on more than 45 bird species for which the treaty is not being implemented. It asked that the second phase begin; that is, if trade is not in compliance with CITES, it should *not* be allowed. The World Conservation Union (IUCN) led the discussion opposing the draft resolution,

and was joined by several exporting countries. Several range states that do not export wild birds supported the U.S. resolution, notably Brazil, Uruguay, Zambia, and Gambia. A vote was taken and the resolution was rejected, with the understanding that the broader issue of trade in all wild-caught significant trade Appendix II species, including birds, would be addressed later in the COP (see the discussion of the resolution on trade in wild-caught animals).

Trade in Birds: Species Sensitive to High Mortality

The U.S. and Israel each submitted similar resolutions calling for a suspension in trade for commercial purposes in bird species that experience high mortality in transport, based on criteria adopted by the CITES Transport Working Group (TWG). They also called for reduced shipment sizes for species that warrant further study of their sensitivity to transport.

CITES requires that prior to the issuance of an Appendix II export permit, a Party's Management Authority must be "satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health, or cruel treatment." Many Management Authorities in exporting countries are unable to, or do not, make such findings, yet continue to export shipments. The transport of live specimens has been an issue at every COP. The TWG found that for many bird species, mortality in transport remains unacceptably high and compliance with CITES is inadequate.

An amended resolution was adopted. It recommends that: 1) Parties maintain, publish, and submit to the TWG records of numbers of bird per shipment and transport mortalities; 2) Parties take measures, including suspension of trade when appropriate, for species of birds with significant high transport mortality rates; and 3) the TWG seek information from Parties and experts in the field for recommendations designed to minimize mortality.

Trade in Wild-caught Animals

CITES requires the Scientific Authority from the country of origin to advise

that an export will not be detrimental to the survival of the species prior to issuing any export permit for Appendix II species. Many Parties have not been able to conduct the properly designed surveys and biological studies necessary to issue such scientifically-based advice. As a result, there is serious concern that the international commercial trade in wild-caught specimens is contributing to the decline in the wild of many Appendix II species.

At the request of the CITES Animals Committee, the U.S. submitted a resolution dealing with wild-caught significant trade animal species. According to the resolution, the Animals Committee would: identify problems with implementing CITES Article IV that may be to the detriment of species; recommend appropriate remedial measures; recommend a consultative process with the exporting Party; and recommend the suspension of trade from countries not implementing the recommended remedial measures.

The Parties agreed to address the wild bird trade in the broader context of all wild-caught animals. Discussions on this issue were extensive and lengthy. Parties passed a resolution that provided for a consultative process with range states, and two levels of priority for action regarding species whose trade has been identified by the Animals Committee as not being in compliance with the treaty.

The key elements of this very important resolution are for the Animals Committee to continue its systematic review of biological trade information of Appendix II species with implementation problems and make recommendations for all species listed in the CITES Significant Trade Review. Parties are required to implement primary recommendations (administrative procedures, quotas, zero quotas, or other trade restrictions) within 90 days of their receipt. They are given 12 months to implement secondary recommendations (such as administrative procedures, field studies, and evaluations of threats to populations). This resolu-

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tion calls for the Secretariat to recommend to the CITES Standing Committee that Parties take stricter domestic measures, including the suspension of trade in a given species, when recommendations are not implemented.

The sense of the CITES Parties was that the treaty is not being effectively implemented in many cases. Appendix II species are being depleted due to trade, and that something *must* happen between COP8 and COP9 in 1994 regarding the significant trade species. The U.S. intends to remain very active in Animals Committee efforts on this issue.

Trade in Crocodilian Products

The U.S., along with Australia, Germany, and Italy, submitted a resolution calling for a universal tagging system for the identification of all crocodilian skins in international trade. All members of the Order Crocodylia are on either Appendix I or Appendix II of CITES. Several resolutions of the Parties have established management programs for some species of crocodilians (such as the Nile crocodile) that required tagging of ranched species and captive bred species. The U.S. already requires such tagging for its alligator exports. This resolution simply extends that tagging requirement to all species of crocodilians, whether taken from the wild, bred in captivity, or produced in a ranching program.

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counted during the 1992 census was about 240 birds along a 140-mile (225-km) stretch of the Canadian River. Other areas with high numbers of birds included a 58-mile (93-km) stretch of the Arkansas River where 237 birds were counted, and a 140-mile (225-km) stretch of the Cimarron River with 230 birds. The river survey is a primary tool wildlife managers use to determine tern populations and to identify quality nesting habitat.

The status of the Hualapai Mexican vole (*Microtus mexicanus hualpaiensis*), listed as Endangered in 1987, is currently uncertain. Grazing, mining, road construction, and recreation have contributed to changes in vole habitat. This subspecies is associated with sites supporting pinyon/juniper and pine/oak vegetation.

In 1991, the Arizona Game and Fish Department (AGFD) conducted surveys (funded by the FWS under Section 6 of the Endangered Species Act) to locate voles in Mohave and Coconino Counties, Arizona. The surveys focused on the Hualapai and Music Mountains and the Hualapai Indian Reservation. Twenty-eight voles were found during the surveys—20 in the Hualapai Mountains, 4 in the Music Mountains, and 4 on the Hualapai Indian Reservation.

The 1992 AGFD spring surveys found 5 voles in 2 new locations in the Hualapai Mountains, and summer surveys found 17 individuals located in 2 old and 2 new sites in the Hualapai Mountains.

A whooping crane (*Grus americana*) sandhill crane (*Grus canadensis*) hybrid chick was observed in the San Luis Valley of Colorado in October, and later in the Rio Grande Valley of New Mexico, where the family group is wintering. The chick, the male whooping crane, and the female sandhill crane are being observed by FWS biologists. The male is part of an experimental flock started in 1975 in the Rocky Mountains by placing whooping crane eggs in sandhill crane nests. The egg transfers were discontinued in 1989 because none of the cross-fostered whooping cranes had paired and mortality rates were excessive in the flock.

On November 5, another male whooping crane from the Rocky Mountain cross-fostered population was captured in the San Luis Valley after it was observed to be ill or injured. The bird is currently being treated for avian tuberculosis at the Rio Grande Zoological Park in Albuquerque, New Mexico. If the treatment is successful, the crane will be the first bird saved from this historically terminal disease.

A pair of whooping cranes was shipped from the International Crane Foundation in Baraboo, Wisconsin, to the Calgary Zoo, in Calgary, Alberta, Canada, on November 13. Another pair was shipped December 9 from the FWS Patuxent Wildlife Research Center in Laurel, Maryland, to the Calgary Zoo. All are reported to be doing well. These birds will be the first complement to stock the Canadian Wildlife Service's captive breeding site at Calgary. Another 10 to 12 birds will be shipped in the spring, and a further shipment in the fall should almost fully stock the new Calgary facility. The Calgary site will have a role in providing captive-produced cranes for release to the wild late this decade, as the Canadian Wildlife Service endeavors to establish a second migratory flock in Canada.

* * *

Region 3 — State agencies, recovery teams, and six FWS Regional Offices are reviewing the status of the bald eagle (*Haliaeetus leucocephalus*) in the conterminous United States to determine if, and where, the bird's classification as Endangered should be changed. The status review is comprised of three parts: (1) review and analysis of bald eagle winter population and breeding territories in each of the five recovery regions, (2) review and possible revision of eagle recovery plans to ensure that they reflect the best data available, and (3) review and analysis of threats still facing the eagle in each of the recovery regions. This effort will be accompanied by an education and outreach program to ensure that the public is informed and involved throughout the review process.

The State of Wisconsin, under contract with FWS Region 3, completed management guidelines for wintering bald eagles. The guidelines provide suggestions for protecting, maintaining, and enhancing feeding, perching, and roosting habitat for eagles during the winter. Additionally, the guidelines outline recommendations for buffer zones and management restrictions.

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FWS Field Offices in Bloomington, Indiana, and Green Bay, Wisconsin, are engaged in interagency conferences to protect the Karner blue butterfly (*Lycaeides melissa samuelis*), which has been proposed for listing as Endangered. The Bloomington Office is conferring with the National Park Service on a proposed fire management plan for the Indiana Dunes National Lakeshore. Indiana Dunes includes Inland Marsh, a 40-acre (16-ha), high quality complex of wetlands and prairie savannah, along with some disturbed areas that currently contain the largest population of Karner blue butterflies on the lakeshore. Dr. Dale Schweitzer of the National Park Service has characterized the Karner blue population at Inland Marsh as globally significant and probably the third largest in the world.

Inland Marsh experienced an extensive wildfire in 1986, followed by a controlled burn in 1987. Portions of the area are now experiencing rapid succession of woody growth. It is generally believed that if fire suppression continues, the area will eventually become unsuitable or only marginally suitable for the Karner blue butterfly, which needs open habitat. The fire management plan is intended to counter the effects of vegetational succession and help maintain suitable habitat for the butterfly.

The Bloomington Field Office is also conferring with the Environmental Protection Agency on a permit application from Midwest Steel Company that may affect Karner blue butterfly habitat along the southern shore of Lake Michigan. Both EPA and Midwest Steel are interested in conserving and enhancing Karner blue habitat, and are preparing a biological assessment to evaluate the effects of alternative actions on butterfly habitat on the company's property.

The FWS Green Bay Office has been working with the Department of Defense and several private landowners to help conserve Karner blue butterfly habitat in Wisconsin. Fort McCoy, a Department of Defense installation in central Wisconsin,

is preparing a biological assessment on winter training activity and a proposed habitat management plan. The Defense Department has been concerned about Karner blue butterfly habitat on Fort McCoy and is working to maximize protection for the butterfly while maintaining operations.

* * *

Region 3 is continuing to formulate a plan to protect Threatened and Endangered mussels from an invasion by the zebra mussel (*Dreissena polymorpha*). The zebra mussel, a species native to Europe, was first discovered in North America in Lake St. Clair in 1986 and has since spread to all five Great Lakes and several major river systems, including the St. Lawrence, Hudson, Ohio, Tennessee, and Mississippi. In the past few years, the very prolific zebra mussel has extirpated all native unionid mussels in Lake St. Clair and on the Canadian side of the Detroit River.

In October 1992, police divers from the City of Detroit, Michigan, and community volunteers conducted an operation to salvage northern riffleshell mussels (*Epioblasma torulosa rangiana*) from the American side of the Detroit River. The northern riffleshell has been proposed for listing as Endangered. The volunteers removed all zebra mussels from the riffleshell mussels, packed the riffleshells in holding cages, and placed the cages in two holding areas for the winter. One group was placed in the St. Clair River, which is still uncontaminated by the zebra mussel. The other group was placed in the boat basin of the Consumer's Power Company's Monroe Power Plant. Both groups will be monitored to ensure that no zebra mussel larvae survived the transfers. The mussels will be held in the two basins throughout the winter and relocated to suitable inland sites during the spring of 1993.

During the summer of 1992, zebra mussels were found in the St. Croix River, which forms part of the boundary between Minnesota and Wisconsin and is the last stronghold for the Endangered winged mapleleaf pearly mussel (*Quadrula fragosa*). Region 3 is trying to

(1) determine the extent of zebra mussel invasion into this river system and (2) develop a strategy to protect both the winged mapleleaf pearly mussel and the Higgins' eye pearly mussel (*Lampsilis higginsii*), an Endangered species that also occurs in the St. Croix River.

This fall, zebra mussels were also found in the East Channel of the Mississippi River near Prairie du Chien, Wisconsin. This area of the Mississippi River currently supports the largest known colony of the Higgins' eye pearly mussel. Region 3 will work with the Fisheries Laboratory in LaCrosse, Wisconsin, to develop a response to the zebra mussel invasion at this site.

* * *

Region 5 — The FWS New England Field Office held an awards ceremony on August 30 to recognize citizens' work in environmental conservation. Awards were presented to three landowners, the Board of Selectmen for Alton, New Hampshire, and the Alton Land Conservation Initiative Program Task Force. Over 300 acres (121 ha) of the world's largest population of the Endangered small whorled pogonia (*Isotria medeoloides*) will be protected as a result of their substantial donations and conservation easements. Additionally, FWS recognized the outstanding contribution of time and personal resources by a volunteer who has monitored over 1,300 small whorled pogonia plants for the past 10 years.

* * *

In May, a controlled burn was conducted on habitat of the Endangered Peters Mountain mallow (*Iliamna corei*), a rare relative of the hibiscus whose entire range consists of only one site, Peters Mountain, in Giles County, Virginia. The burn followed laboratory investigations showing that this species will not germinate unless its hard seedcoats have been broken, and that this can be accomplished through careful burning. A series of 10-by-10-meter (33-by-33-feet) plots were burned or left unburned in a carefully controlled design. To date, nine Peters Mountain mallow seedlings have ap-

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peared in the burned plots. If all survive, the wild population, which previously consisted of only three individuals, will have been increased by 300 percent. Increasing the number of plants should also improve seed set in the natural population, because the species requires cross-fertilization for reproduction.

* * *

In early 1992, West Virginia Division of Natural Resources (WVDNR) personnel conducted censuses at the nine known Virginia big-eared bat (*Plecotus townsendii virginianus*) maternity colonies in West Virginia. These colonies contained 4,429 adults, a level within 1 percent of their 1991 census. In May, the largest known maternity colony of this Endangered subspecies was discovered. It contained over 1,300 individuals.

As part of another WVDNR study, 10 Virginia big-eared bats were fitted with radio transmitters and tracked in Pendleton County, West Virginia, for a 2-week period in late July. The bats traveled up to 7 kilometers (4.3 miles) from the cave each night and foraged in both wooded areas and fields. This study received funding from FWS and the Monongahela National Forest.

* * *

During November, the FWS West Virginia Field Office learned of four bald eagle shootings in the State. One eagle, tagged by the State of New York, was killed. One eagle was wounded but could not be captured and is still in the wild. The remaining two eagles, both wounded, were taken to rehabilitation centers. One is recovering well and may be released to the wild soon, but the other will probably never be able to be returned. None of these eagles were among those nesting in the State. This number of bald eagle shootings is the highest for a single month in West Virginia since 1984.

Four bald eagle nests were observed in West Virginia in 1992, from which eight eaglets were fledged. Only three nests were found in the State in 1991.

* * *

Dr. Thomas Pauley, under a contract with the WVDNR, located two new populations of the Cheat Mountain salamander (*Plethodon nettingi*), a Threatened species. In addition, Dr. Pauley delineated the extent of two known populations. One of these populations was found to extend below an elevation of 2,400 feet (730 meters), the lowest recorded elevation for this salamander.

* * *

One nesting pair of peregrine falcons was located and monitored in Grant County, West Virginia, in 1992. The pair produced three young. Another pair, monitored at Summersville Lake, West Virginia, did not attempt to nest. The female of this pair was a subadult.

* * *

Region 6 — Two bald eagles and three peregrine falcons fledged in Nebraska in 1992, the first known successful fledging of these two Endangered species in the State in the past century. The eagles fledged from a nest on the Middle Loup River (a tributary to the Platte River) in central Nebraska. This nest, the only known bald eagle nest in Nebraska in 1992, was monitored throughout the breeding season by the Nebraska Game and Parks Commission. In 1991, the only known bald eagle nest in Nebraska was found on the Platte River; unfortunately, the hatchling failed to fledge.

The three peregrine falcons fledged from the Woodman Tower Office Building in downtown Omaha, Nebraska, in 1992. One of the adult birds had been previously hacked from Woodman Tower, and this year it returned to the building to successfully raise the three offspring.

* * *

A breeding site used by the Endangered piping plover (*Charadrius melodus*) in 1992 at Alkali Lake in northwestern Pondera County, Montana, represents an extension of the species' previously known western range in Montana by approximately 200 miles (320 km). In Colorado, piping plovers were found nesting at Adobe Creek Reservoir in the southeastern part of the State in 1992. Only four piping plover nests were docu-

mented in Colorado this year, three at Adobe Creek and one at Nee Noshe Reservoir, also in southeastern Colorado. Nesting at Nee Noshe was discovered in 1989, the first discovery of piping plovers in Colorado in almost 50 years.

* * *

Six American burying beetles (*Nicrophorus americanus*), the largest carrion beetle in the United States, were discovered on the Valentine National Wildlife Refuge in Nebraska in the summer of 1992. These findings indicate that a viable population of the beetles may exist on the refuge. Valentine National Wildlife Refuge is completely outside the previously known Nebraska range of American burying beetles, and this is only the third collection of these rare beetles in Nebraska since 1970. Only 11 beetles have been collected in Nebraska since the 1880's.

* * *

Region 8 — Staff and cooperators of the FWS Southeast Research Group operated 238 nets in 4 Michigan study areas between July 16 and September 30, 1992. During a total 11,997 net hours, they captured and banded 160 Kirtland's warblers (*Dendroica kirtlandii*) and recaptured 16 birds banded in previous years. The recaptured birds included 2 individuals first banded in 1988, one of which had not been seen since that time. In spite of a cool, wet summer, reproductive success was high for the warbler, with a ratio of 2.3 young for every adult captured.

* * *

Three Mississippi sandhill crane (*Grus canadensis pulla*) cohorts have been formed in preparation for their release at the Mississippi Sandhill Crane National Wildlife Refuge. The cranes, drawn from captive breeding flocks, were reared in two different ways: by their parents or by human attendants dressed in costumes designed to prevent the cranes from imprinting on humans. The cohorts consist of 12 costume-reared young-of-the-year, 14 parent-reared young-of-the-year, and a mixture of 7 costume-reared and 7 parent-reared young-of-the-year.

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In August 1992, Siberian white cranes (*Grus leucogeranus*) were instrumented with "satellite backpacks" in both northeastern and northwestern Siberia. As of September 28, one northeastern bird had already flown 2,000 miles (3,200 km) to Zhalong Marsh in northwestern Manchuria. At that time, one northwestern bird was about 800 miles (1,290 km) into its journey and appeared to be headed for India. From monitoring these birds, we should learn which summering

and wintering populations are linked. If the northwestern bird is headed for India, as its current flight suggests, it is likely that the other population, which is wintering in Iran, breeds at an unknown location in European Russia.

* * *

Preliminary assessments of damage to the native rainforests on the island of Kaua'i following Typhoon Iniki indicate much of the 'ohi'a and koa forests in the Alaka'i Swamp region sustained significant defoliation and tree fall. These forests harbor several Endangered forest bird species, including the Kaua'i 'o'o (*Moho*

braccatus), Kaua'i 'akialoa (*Hemignathus procerus*), nuku-pu'u (*Hemignathus lucidus*), and 'o'u (*Psittirostra psittacea*). The status of these birds is unknown. Plans are under way to send State and Federal biologists to Kaua'i to evaluate the damage to the biological resources. Damage to inhabited sections of the island was severe, and many of the buildings on the Kilauea Point National Wildlife Refuge were either destroyed or severely damaged.

* * *

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The first in a new series of posters under the theme "Endangered Means There's Still Time" depicts six animals and plants native to coastal areas of the United States: the San Francisco garter snake, California clapper rail, mission blue butterfly, Menzies' wallflower, brown pelican, and leatherback sea turtle. Future editions of the series will feature endangered species from a variety of habitats. These posters are designed to raise public awareness of lesser-known types of rare wildlife.

The 16 1/2-by-22-inch poster can be purchased by writing the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, or by calling 202/783-3238. The price is \$4.95; ask for product number 024-010-00693-5.

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FWS biologists continue to monitor the 'alala or Hawaiian crow (*Corvus hawaiiensis*) population in the Kona section of the island of Hawai'i (the "Big Island"). Particular attention has been placed on following the maturation of a chick fledged this year from one of three active nests. Weekly checks of the bird indicate it is feeding successfully on its own, but it remains with its parents in the general vicinity of the nesting area.

* * *

Fewer palilas (*Loxioides bailleui*) nested on the island of Hawai'i in the 1992 season than in any season since 1988, possibly as the result of a severe drought. Only 5 active nests were found, compared to 85, 84, 52, and 71 during the prior 4 years, respectively. Two of the 1992 nests successfully fledged young, and one of the pairs re-nested unsuccessfully. Apparently, the low breeding effort resulted from a drought brought on by an El Niño event. Also, counts of mamane pods, the bird's main food, were below average before the drought began and became progressively lower throughout the year. Insects, another food of the palila, especially chicks, were captured at low rates during the drought.

A mamane forest on the east slope of Mauna Kea has been selected as the site for a proposed experimental translocation of palilas. Factors considered during the

Category	ENDANGERED		THREATENED		LISTED* SPECIES TOTAL	SPECIES WITH PLANS
	U.S.	Foreign Only	U.S.	Foreign Only		
Mammals	56	249	9	23	337	33
Birds	73	153	13	0	239	67
Reptiles	16	64	18	14	112	26
Amphibians	6	8	5	0	19	8
Fishes	55	11	36	0	102	54
Snails	12	1	7	0	20	8
Clams	42	2	2	0	46	38
Crustaceans	9	0	2	0	11	5
Insects	15	4	9	0	28	13
Arachnids	3	0	0	0	3	0
Plants	298	1	72	2	373	149
TOTAL	585	493	173	39	1290*	401**
Total U.S. Endangered	585		(287 animals, 298 plants)			
Total U.S. Threatened	173		(101 animals, 72 plants)			
Total U.S. Listed	758		(388 animals, 370 plants)			

* Separate populations of a species that are listed both as Endangered and Threatened are tallied twice. Those species are the leopard, gray wolf, grizzly bear, bald eagle, piping plover, roseate tern, chimpanzee, 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.

** There are 334 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.

Number of Cooperative Agreements signed with States and Territories: 53 fish & wildlife
39 plants

Number of CITES Party Nations: 117

January 31, 1993

selection process included available food supply, elevation of the site, relative abundance of predators, and logistics.

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