

ENDANGERED *Species* BULLETIN

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“Recognizing that the wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this and the generations to come” is a basic tenet of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. CITES, as it is more commonly known, is the only global treaty to ensure that international wildlife trade is based on sustainable use and management of wild and captive populations. The United States was the first of the 21 original countries to sign CITES on March 3, 1973. This edition of the Bulletin features CITES and provides some examples of cooperative activities for the conservation and sustainable use of animals and plants.



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On the Cover

The humphead wrasse (*Cheilinus undulatus*), a large coral reef fish recently listed in CITES Appendix II, is often illegally caught by stunning with cyanide and then is shipped live to supply international luxury food markets.

Opposite

Text of CITES was finalized by representatives of 81 countries at the 1973 Conference held in Washington, D.C.



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The Endangered Species Bulletin welcomes manuscripts on a wide range of topics related to endangered species. We are particularly interested in news about recovery, habitat conservation plans, and cooperative ventures. Please contact the Editor before preparing a manuscript. We cannot guarantee publication.

We also welcome your comments and ideas. Please e-mail them to us at esb@fws.gov.

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IN THIS ISSUE

- 4 CITES Supports Sustainable Use
- 8 Fact or Fiction: CITES and the ESA
- 10 Partnerships for Alligator Recovery and Trade
- 12 Sustainable Use for Vicuña Conservation
- 14 The Role of CITES in Orchid Conservation
- 16 Managing the Trade in Sturgeon and Paddlefish
- 18 Enforcement Starts with Wildlife Inspectors
- 20 Room at the Table: Voices of NGOs
- 22 Species Conservation Under Appendix I
- 24 Mushrooms and the Future of CITES

Departments

- 26 Focus on Refuges
- 29 Regional News

CITES Supports Sustainable Use

by Kenneth Stansell



USFWS/Earth Negotiations Bulletin

While there have been, and will continue to be, new challenges to conservation, as well as necessary and creative adaptations for implementation of the Treaty, the basic tenets of this Convention remain as vital and prophetic as they were more than a quarter century ago. CITES has seen many analyses and interpretations. Its worth and timeliness are continually questioned and debated. So are its effectiveness and arguments for its appropriate role in global resource conservation. In civil society, such discourse is right and appropriate. That said, the simple words of the preamble that ground the Convention continue to provide the foundation for one of the most important tools in global resource conservation today.

Kenneth Stansell

On July 1, 1975, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) entered into force after ratification by the tenth signatory country. It emerged out of long-standing concern for the future of animals and plants used in international trade. The simple, elegant language of the treaty lays down the principles upon which those early framers felt it possible to balance conservation of species with their use.

The treaty recognizes that “peoples and States” are the best protectors of their own wild fauna and flora. In the United States, the Endangered Species Act designates responsibility for CITES implementation to the Secretary of the Interior, acting through the U.S. Fish and Wildlife Service.

Seahorses are traded for use in traditional Chinese medicine and as aquarium pets, souvenirs, and curios.



Frank Koim/USFWS

Given the wide range of species-trade issues, other federal agencies, the states, and the public also play critical roles. The Service works closely with the states, which manage native CITES-listed animals and plants within their boundaries. The American alligator and paddlefish illustrate the states’ role in CITES (see articles in this issue).

Species regulated under CITES are placed on one of three appendices. Appendix I includes species threatened with extinction, Appendix II includes species that are not currently threatened with extinction, but may become so without trade controls, and Appendix III includes species for which a range country has requested international cooperation to control trade.

During the 30 years of the treaty’s existence, global membership in CITES has expanded from 10 to more than 165 nations, a tribute to its effectiveness. With membership comes agreement to use a permit system to monitor trade and ensure use is sustainable. Exporting countries issue CITES permits only after finding that the animals or plants, and their parts and products, are legally acquired and that exports are not detrimental to the survival of the species.



Liu Min



Corel Corp.

Left: Green pitcher plant
Above top: Humphead wrasse
Above: Box turtle

Importing countries become partners in this effort. They are obligated to refuse imports of Appendix-I species for commercial or detrimental purposes, and to ensure that imports of Appendix-II species are accompanied by valid permits. A CITES Appendix-II listing is not a ban or boycott of commercial trade, but a way to regulate and monitor trade to ensure legal, sustainable harvest. A country may not be able to make the required non-detriment finding to allow trade when species are vulnerable to wild harvest, are harvested in quantities too large to ensure sustainability, or are not subject to a management program. This was the case in 1997 when the U.S. set a zero quota for the commercial export of Appendix-II box turtles (*Terrapene* spp.).

CITES recognizes that international cooperation can encourage support

for sustainable use rather than overuse of species in trade. It requires member countries to monitor Appendix-II exports to ensure that species such as the American alligator (*Alligator mississippiensis*) and paddlefish (*Polyodon spathula*) are maintained throughout their ranges at a level consistent with their role in the ecosystem. Thus, the treaty supports natural resource management programs in range countries that help prevent a species from becoming threatened.

The treaty requires CITES countries to monitor trade and take appropriate measures to enforce treaty provisions. The U.S. has a highly sophisticated inspection program to detect and confiscate illegal shipments (see article elsewhere in this issue) and an investigation program to combat illegal trade.

Pitcher plants, American ginseng, red-kneed tarantulas, box turtles, brown bears, and gray wolves are among some of the approximately 5,000 species of animals and 28,000 species of plants listed by CITES.

Why a Fish and Wildlife Service International Program?

- International species are important to Americans for their aesthetic, scientific, cultural, recreational, and economic value
- Wildlife and their habitats go beyond political boundaries, and international cooperation is essential for the protection of certain species
- Implementation of wildlife laws and treaties results in global conservation of species, and contributes to environmental health and economic development for range countries

Countries also are directed to return or care for live animals and plants that have been confiscated for noncompliance with import and export requirements. Specimens may be returned to the country of origin for *in-situ* conservation or placed in public institutions to contribute to *ex-situ* conservation, research, and education. The U.S. has enlisted more than 70 botanical gardens, arboretums, zoological parks, and research institutions in over 18 states to participate in its Plant Rescue Center program. During 2004, the U.S. confiscated 269 live plant shipments that contained 6,422 plants, consisting mainly of orchids, cacti, and euphorbia.

Countries also collect species-specific trade data to produce an annual report that tallies all imports and exports. These data are entered into a single database by the World Conservation Monitoring Center in the United Kingdom. This database is used to determine trends in trade and ensure that significant trade in wildlife is sustainable.

CITES provides for international measures when trade may be adversely affecting listed species or in circumstances where treaty provisions are ineffectively implemented. At the CITES meeting in Thailand in 2004, countries discussed treaty compliance, and work

Confiscated CITES plants are placed in public institutions to contribute to conservation, research, and education.



American ginseng (*Panax quinquefolius*), listed in CITES Appendix II, must come from a State or Tribe with an approved ginseng management program to be exported from the United States.

J. Dan Pittillo, West Carolina University

Seattle Department of Parks and Recreation, Volunteer Park Conservancy

continues on development of guidelines. Generally, compliance measures involve consultation and assistance, but may result in voluntary or CITES-recommended bans on trade. In October 2003, the Dominican Republic and Honduras suspended exports of queen conch (*Strombus gigas*) based on CITES recommendations, and the CITES Secretariat recommended that CITES countries not allow the import of queen conch from Haiti. This temporary suspension of international trade will be lifted once these countries implement specific long-term conservation measures to sustainably manage queen conch populations in their waters.

Thirty years have brought many changes to CITES. As advancing technology makes it possible to ship wildlife anywhere in the world, and as issues of wildlife use grow ever more complex, CITES provides tools to effectively conserve the world's diverse natural resources. It is a living instrument that has proven its flexibility.

At the last two CITES meetings (Thailand in 2004 and Chile in 2002), countries adopted listings of commercial marine species and timber, new arenas for CITES regulation. One of the marine species was the U.S. proposal to include seahorses in Appendix II. Seahorses, which live in ocean waters, are harvested for use in traditional Chinese medicine or as aquarium pets, souvenirs, and curios. Over 20 million seahorses are captured annually from the wild. Seahorses will now be protected from overharvest, another example of CITES' continuing record of progress in sustainable use for the world's wildlife—something the original framers of the treaty may well be proud of.

Kenneth Stansell is the Service's Assistant Director for International Affairs and was Chair of the CITES Standing Committee (2000-2004).



ISD/Earth Negotiations Bulletin

The world's plants and animals are a treasure shared by all nations, and CITES plays a vital role in the conservation of species affected by trade. As head of the U.S. delegation at COP(Conference of Parties)12 in Santiago, Chile, in 2002 and COP13 in Bangkok, Thailand, in 2004, I worked actively with my counterparts from other countries on elephants, mahogany, ramin, whales, and other issues of importance to the United States. I was particularly pleased with the passage of U.S. proposals to conserve seahorses and a variety of Asian turtles threatened by commercial trade. The United States also helped develop consensus on the conservation and sustainable use of mahogany and ramin (another tropical hardwood), which were listed in Appendix II. We cannot take the risk that 50 years from now the only place anyone will see mahogany is in an old desk or chair, or that the pool cues made of ramin will cause the loss of vital orangutan habitat. After participating in the CITES process, I can truthfully say that serving as head of the U.S. delegation has been the highlight of my career. I find nothing more satisfying than quietly conferring with other nations to develop a proposal that improves species conservation. Loud protests often make headlines, but quiet diplomacy gets the results. Definitely, CITES is a treaty that works!

Craig Manson, Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior

CITES Implementation in the United States

U.S. CITES Authorities—International Affairs

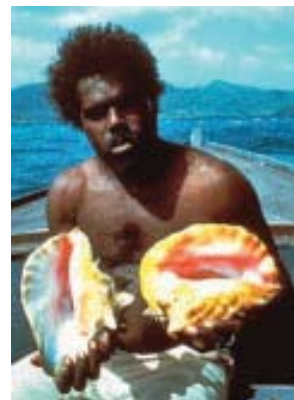
- Division of Management Authority
- Division of Scientific Authority

Border Inspection and Clearance of Shipments

- FWS, Law Enforcement (wildlife)
- U.S. Customs and Border Protection (Department of Homeland Security) (plants)
- Animal and Plant Health Inspection Service (USDA) (plants)

Other Federal and State Participants

- Department of the Interior
- Department of Justice
- Department of State
- Environmental Protection Agency
- International Association of Fish and Wildlife Agencies
- NOAA Fisheries
- U.S. Agency for International Development
- U.S. Forest Service
- U.S. Trade Representative



TRAFFIC

International trade in queen conch has been suspended temporarily from some Caribbean countries until they implement measures for sustainable management.

Fact or Fiction: CITES and the ESA

by Tim Van Norman



Frank Kohn/USFWS

CITES protects many species that are not endangered. Most cacti, such as this golden barrel, are listed in Appendix II.

In my position as Chief of the Branch of Permits in the Service's Division of International Affairs, I often speak with people who would like to import or export animals and plants. They may want to import biological samples for research or to visit Canada with their pet bird during a family vacation. Their questions range from the simple to the complex, but they have one thing in common: they often reflect confusion about the respective roles of CITES and the Endangered Species Act (ESA). I would like to touch on a few of the most common misconceptions:

Misconception #1: CITES and ESA listing categories are the same.

Many people think that CITES Appendix I and II directly equate to ESA listings as endangered and threatened,

and that Appendix III is a special vulnerable category much like those that some states have for their protected wildlife. This is not true. Species listings under CITES and the ESA involve different processes and standards. The listing of a species in Appendix I or II requires a vote of the CITES Parties and international agreement that CITES listing criteria are met, including consideration of whether the species "is or may be affected by trade." The listing of a species under the ESA is done through a U.S. public rulemaking process based on ESA listing standards. Confusion occurs because some species are listed by both CITES and the ESA, while others are only listed by one of them. The following table highlights that there is no direct correlation between how a species is listed under CITES and how it is listed under the ESA.

Status (Includes Native and Non-Native Species)	No. of Species	Examples
Appendix I and Endangered	511	Asian elephant (<i>Elephas maximus</i>), whooping crane (<i>Grus americana</i>), green pitcher plant (<i>Sarracenia oreophila</i>)
Appendix I and Threatened	32	Black howler monkey (<i>Alouatta pigra</i>), loggerhead sea turtle (<i>Caretta caretta</i>), Mesa Verde cactus (<i>Scleroactus mesae-verdae</i>)
Appendix I only (no ESA)	492	Asiatic black bear (<i>Ursus thibetanus</i>), Andros ground iguana (<i>Cyclura cyclura</i>), Drury tropical lady's slipper (<i>Paphiopedilum druryi</i>)
Appendix II and Endangered	86	South American tapir (<i>Tapirus terrestris</i>), Hawaiian hawk (<i>Buteo solitarius</i>), Elfin tree fern (<i>Cyathea dryopteroides</i>)
Appendix II and Threatened	51	Mexican spotted owl (<i>Strix occidentalis lucida</i>), yacare caiman (<i>Caiman yacare</i>), eastern prairie fringed orchid (<i>Platanthera leucophaea</i>)
Appendix II only (no ESA)	~30,500*	African lion (<i>Panthera leo</i>), grey parrot (<i>Psittacus erithacus</i>), reticulated python (<i>Python reticulatus</i>)
Appendix III and Endangered	10	Barbary deer (<i>Cervus elaphus barbarus</i>), pink pigeon (<i>Columba mayeri</i>)
Appendix III and Threatened	1	White-breasted guineafowl (<i>Agelastes meleagrides</i>)
Appendix III only (no ESA)	231	Walrus (<i>Odobenus rosmarus</i>), king vulture (<i>Sarcoramphus papa</i>), tropical rattlesnake (<i>Crotalus durissus</i>)
Endangered only (no CITES)	958	African wild dog (<i>Lycan pictus</i>), Alabama redbelly turtle (<i>Pseudemys alabamensis</i>), scrub mint (<i>Dicerandra frutescens</i>)
Threatened only (no CITES)	244	Koala (<i>Phascolarctos cinereus</i>), spectacled eider (<i>Somateria fischeri</i>), island rush rose (<i>Helianthemum greenei</i>)

*Almost all orchids and cacti are listed by CITES, accounting for the majority of Appendix-II species.



There is no direct correlation between how a species is listed under CITES and the ESA. The African wild dog (*Lycaon pictus*) is listed as endangered by the ESA, but is not protected by CITES.

Misconception #2: CITES only protects endangered species.

The second misconception originates from the name of the Convention. The word *Endangered* is featured prominently in the title: Convention on International Trade in Endangered Species of Wild Fauna and Flora. So, people assume that only very rare endangered animals and plants are listed by the treaty. This is not true. CITES provides three levels of protection. Appendix-I species are threatened with extinction. Most CITES species are listed in Appendix II; these are species not currently threatened with extinction, but that may become so unless trade is closely controlled. Appendix II also encompasses “look-alike” species: species that are difficult to distinguish in trade from species listed for conservation reasons.

Even an abundant species may be listed in Appendix II, and many Appendix-II species are widely traded. For example, all parrots, parakeets, macaws, lorries, and cockatoos (except the budgerigar, cockatiel, peach-faced lovebird, and rose-ringed parakeet) are listed in CITES. Most are in Appendix II, but a few are listed in Appendix I. Since some parrot species are available in pet stores in the U.S., parrot owners are often surprised to find they need CITES permits to travel internationally with their pet birds.

Misconception #3: CITES only protects wild specimens.

The word *Wild* in the title of the treaty also confuses permit applicants who think only wild-collected animals and plants require CITES permits. This is not the case. CITES regulates wild and captive-bred animals and wild and artificially propagated plants. When CITES Parties agree to place a species on one of the Appendices, they are recognizing that the demands of international trade are adversely affecting populations

in the species’ native habitat. The treaty protects *all* specimens of a listed species to ensure that wild populations are not being adversely impacted by trade in captive specimens. A number of species listed under CITES are captive-bred or artificially propagated, and are readily available in stores or nurseries. These specimens still need CITES permits or certificates to be traded internationally.

In summary, both CITES and the ESA were established to protect species and maintain viable populations in the wild. Through the years, both have made significant contributions to species conservation, often in different ways. Looking at some common misconceptions helps us to better understand the differences between these two important conservation measures.

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General Overview—ESA and CITES Permit Requirements

	Regulated Activities	Permit Findings
ESA	<ul style="list-style-type: none"> ■ Import or export ■ Take of wildlife (within the United States, within the territorial seas of the United States, or upon the high seas) ■ Interstate or foreign commerce ■ Sell or offer for sale 	<ul style="list-style-type: none"> ■ Proposed activity will enhance propagation or survival of the species, or be for scientific research, economic hardship, or incidental take ■ Proposed activity will be for zoological, exhibition, education, and other purposes consistent with the ESA (only threatened species) ■ Issuance of the permit will not jeopardize the continued existence of the species ■ Specimen was legally acquired ■ Expertise and facilities are adequate to successfully accomplish the objectives of the proposed activity
CITES	<ul style="list-style-type: none"> ■ Import or export ■ Introduction from the sea 	<ul style="list-style-type: none"> ■ Proposed activity is not detrimental to the survival of the species ■ Specimen was legally acquired and traded under CITES ■ Live specimen will be prepared and shipped humanely ■ Recipient is suitably equipped to house and care for live wildlife or plants (only for import of Appendix-I specimens) ■ Purpose of the import is not for primarily commercial purposes (only Appendix-I specimens)

Partnerships for Alligator Recovery and Trade

by Clif Horton and
Bruce Weissgold



Frank Kohn/USFWS

All alligator skins must have a self-locking, tamper-resistant tag attached. U.S. tags contain a US-CITES logo, the state of harvest, and the abbreviation MIS for Alligator mississippiensis.

In the late 1860s, the leather industry's demand for exotic hides led to widespread commercial hunting of the American alligator (*Alligator mississippiensis*). The demand in Europe and the United States for luxury leathery products was so rapacious that, within a few years, large American alligators were sufficiently rare to create a market for exported crocodile hides from Mexico and Central America. Tens of thousands of skins entered world markets, making their way from swamps to tanneries to exclusive department stores and boutiques. The precipitous decrease in size and numbers of American alligators taken for trade reflected a species in decline.

All this has changed. Today, American alligator populations thrive, thanks to creative partnerships between federal and state governments. The states led the way

in providing legal protection. Alabama adopted protective legislation for its American alligator population in 1941, followed by Florida (1961), Louisiana (1962), and Texas (1970).

Steps on the alligator's path to recovery included its listing under the Endangered Species Preservation Act of 1966 (a predecessor to the Endangered Species Act of 1973) and CITES. It was listed under the Act as endangered in 1967, but by 1987 it had recovered enough to be reclassified as "threatened due to similarity of appearance" throughout its range. Under this designation, which is intended to protect other listed species that bear a resemblance, commercial take of American alligators is regulated by the states, while export of tagged skins or hides falls under federal jurisdiction.

An American alligator protecting its nest.



USFWS

The alligator's regulatory status also changed under CITES. In 1975, the American alligator was listed in Appendix I, which allows no commercial trade. In 1997, it was downlisted to Appendix II, which allows commercial trade of legal, sustainably harvested specimens.

Today, 83 percent of American alligator habitat is found in Florida, Louisiana, and Texas. The alligator's distribution is limited largely by the availability of suitable habitat, which is shrinking as land conversion for housing, shopping centers, golf courses, and other uses eats away available acreage.

States, businesses, and the Fish and Wildlife Service are working together to ensure the continued survival of this ancient species. Alligator numbers are maintained through sustainable management programs in Louisiana, Florida, Georgia, Texas, and South Carolina, with various combinations of farming, ranching, and harvesting of wild animals, including the take of nuisance animals. Louisiana and Florida run the largest alligator farming and ranching programs, with Louisiana's efforts primarily focused on wild egg collection for ranches and a managed seasonal hunt of wild alligators.

CITES serves as the principal legal authority regulating international trade in American alligator skins and products. The CITES community continues to refine its trade procedures to ensure that trade is based on sustainable use and management of wild and captive populations. Commercial trade in alligator skins and skins from other crocodilian species, such as caimans, requires CITES permits and tags.

Countries that are signatories to CITES have adopted a universal tagging system for the identification and tracking of crocodilian skins in international trade. All skins, but not products, must have a self-locking, tamper-resistant tag attached. Tags are embossed with the species name and the year and state of harvest. In the U.S., the states require that CITES tags with a unique non-reusable number be attached to each legally harvested American alligator skin prior to export.



Ron Singer

Alligator hatchlings. Louisiana and Florida run the largest farming and ranching programs.

State wildlife agencies report wild harvest levels resulting from sport hunting, alligator demographics, reproduction, nuisance harvests, farm or captive breeding programs, and collection of eggs or hatchlings from the wild. The Service uses this information as the basis of the "non-detriment" findings needed to issue CITES export permits.

In 2003, the Service's Director, Steve Williams, signed a proclamation heralding the recovery of the American alligator. Thanks to federal, state, and international conservation actions, it would be hard to find a better example of a species that, once on the brink of extinction, is now being successfully managed for sustainable use.

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The recovery of the American alligator in Florida has led to the development of a \$14-million industry in the Sunshine State, providing thousands of residents and nonresidents with hunting and viewing opportunities of this unique animal. Furthermore, revenues generated from state license sales support programs that comprehensively monitor and manage the species to ensure its long-term welfare.

Harry J. Dutton, Leader Alligator Management Section Florida Fish and Wildlife Conservation Commission

Sustainable Use for Vicuña Conservation

by Michael Kreger

High in the Andes Mountains of South America (at an altitude of 12,000 to 15,700 feet, or about 3,700 to 4,600 meters) lives the rarest of six species of camels and llamas: the vicuña (*Vicugna vicugna*). You might not think that this species, native to remote alpine grasslands in Peru, Bolivia, Chile, and Argentina, would be of commercial interest worldwide. However, a coat made from the tawny and white wool of the vicuña can sell for \$35,000.

Due to the exceptional quality of its wool, vicuña populations cascaded from an estimated several million animals in the 1500s to fewer than 15,000 in the late 1960s. The decline led to the species being listed in 1970 as endangered under the U.S. Endangered Species Conservation Act of 1969 (precursor to the Endangered Species Act of 1973) and being added in 1975 to Appendix I of

CITES, the highest level of international trade protection.

The major threat to this animal was not habitat destruction but illegal trade. The high value of the wool in an economically poor area represented both a threat and an opportunity to sustainably manage the species. Illegal hunting predominated when protection and incentives for management were lacking.

Opportunities for sustainable use increased when proceeds from the sale of wool from live-shorn animals were directed back to improve the lives of native Andean people, thereby encouraging them to protect the vicuña. In recent years, range countries also have enacted federal and/or provincial laws to control trade.

Laws and decrees also support captive-breeding operations and commercialization of products from captive-bred animals, ensuring stewardship of vicuñas by campesinos (peasants) and campesino communities. In a sustainable-use program, wild vicuñas are herded, captured, shorn of their fleece, and released unharmed.

In Peru, the National Council of South American Camelids has developed techniques for capturing and harvesting wool from wild vicuñas, and has taught and supervised campesinos in vicuña management. Shearing takes just two minutes per animal. Vicuña management provides employment for many members of the community. Campesinos build fences, obtain and clean fleece, provide protection to vicuñas, and offer instruction to other communities wishing to establish a vicuña industry. Strict law enforcement and population monitoring deter illegal hunting.

Wild vicuñas are rounded up in pens so they can be shorn of their fleece.





By the 1990s, the global vicuña population showed dramatic growth, reaching an estimated 250,000 animals. The increased numbers led the World Conservation Union to move the vicuña to a classification of “lower risk, conservation dependent” in 1996. Between 1987 and 1997, CITES countries responded by downlisting many vicuña populations to Appendix II to allow import and export of wool and wool products for commercial purposes.

After CITES’ success in promoting the sustainable use of vicuña, the Fish and Wildlife Service reviewed the biological status of the species and reclassified populations in Argentina, Bolivia, Chile, and Peru from endangered to threatened in 2002. A special rule allows vicuña products to once again enter the U.S., provided that CITES conditions are satisfied. An additional non-CITES condition required by the U.S. is that range countries submit an annual report detailing vicuña management, trade, and conservation. The Service reviews the reports every two years to determine if management programs are continuing to provide conservation benefits.

For the vicuña, this has meant a resumption of legal international trade in cloth, fiber, and finished products, such as coats, and handicrafts. To ensure that only Appendix-II populations are involved, all products traded must be labeled with logotypes adopted by the range countries through the Convention for the Conservation and Management of Vicuña with the name of the country of origin of the wool. Peruvian products, for example, are labeled ‘Vicuña-Peru’ or ‘Vicuña-Peru-Artesanía,’ depending on the type of product.

By encouraging well-managed sustainable use, CITES and the Endangered Species Act continue to play an important role in the long-term conservation of the vicuña.

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The Role of CITES in Orchid Conservation

by Roddy Gabel



Carol Corp.

All tropical slipper orchids of the genus *Paphiopedilum* are listed in Appendix I of CITES.

Scientists have traced orchids as far back as 120 million years. These plants first received recognition in the herbal writings of Japan and China 3,000 to 4,000 years ago. Once the province of rulers and other powerful officials, orchids are now widely available. The elegant, often brilliantly colored plants grace restaurant tables, offices, homes, and department stores. During the past 10 to 15 years, orchids have achieved unprecedented commercial popularity. They have been the subject of popular books (*The Orchid Thief*, *Orchid Fever*) and a movie (*Adaptation*). In the United States alone, the orchid business exceeds \$100 million annually, according to a USDA Floriculture Crops Report.

There are over 20,000 species in the family Orchidaceae, within about 900 genera. The actual number is unknown and the subject of debate, with new species still being discovered. The entire orchid family has been included in the CITES Appendices since the treaty entered into force in 1975. Several species were included in Appendix I because they were over-collected from the wild for horticulture. In 1989, all species in the genera *Paphiopedilum* and *Phragmipedium*, the tropical slipper orchids, were transferred to Appendix I because of the high rate of endemism (occurring within a small area) within each genus, the rarity of some species, the similarity of appearance among many species, and their popularity in trade. The vast majority of orchids were included in Appendix II because they resemble other species of conservation concern.

Import and export data indicate that 20 to 25 million or more orchid plants are traded each year worldwide. The overwhelming majority, 95 percent or

more, are Appendix-II artificially propagated species and their hybrids, comprising several popular genera. Given these statistics, one might wonder why CITES still protects artificially propagated plants.

When not in flower, some orchids can be indistinguishable from each other, even to a professional. This similarity of appearance facilitates the poaching and subsequent commercial use of wild orchids. For example, tropical slipper orchids have been the subject of intense collection pressure. The recent discovery of a new *Phragmipedium* species in Peru provides an example. Once news of this magnificently huge-blossomed orchid broke, every plant in the original population was eliminated from its wild environment within a matter of days as collectors ravaged the hillsides where it was found. Orchids continue to be listed under CITES to discourage the poaching of wild plants and to limit opportunities for wild specimens to slip into commercial trade.

For Appendix-II orchids, the CITES Parties decided that trade in certain parts and products is not detrimental to the survival of the species. They agreed to exempt the following from CITES permitting requirements: seeds; pollinia (the encapsulated pollen of orchids); tissue cultures and flasks seedlings; cut flowers of artificially propagated plants; and, for *Vanilla* species, fruits, parts, and derivatives from artificially propagated plants. Generally, trade in any parts or derivatives of Appendix-I orchids requires a permit, although the CITES Party countries have agreed to exempt flasks seedlings in sterile culture *if* they meet the CITES definition of artificially propagated plants.

The CITES Plants Committee, which provides technical and scientific support to the Parties, recently reviewed the listing of orchid species to see if it was possible to deregulate certain plants without adversely affecting those that need protection. The goal of this review was to reduce the burden on permit-issuing agencies, border inspection officials, and the regulated public. CITES countries also sought an alternative approach that could focus conservation attention on those species that are removed from the wild each year for international trade.

A comprehensive review of the orchid trade, based on 1995-1999 data, revealed that most of the trade involved 40 genera, which are traded in the thousands. Of the other orchid genera, 326 had never been recorded in trade; 201 had only been traded for scientific purposes; and, for 105, fewer than 50 specimens had been recorded. This analysis suggested that more than half of the known genera of orchids might conceivably be removed from CITES controls.

The Plants Committee concluded, however, that all orchids should remain listed due to the enormity of the orchid family, the difficulty of distinguishing different genera based on vegetative characteristics alone (orchids generally are not traded while flowering), and the confusion that could result from extensive compilations of genera listed and unlisted under CITES. As a consequence, the Plants Committee considered whether some other approach to deregulation might be possible.

In 2001, the Plants Committee asked the U.S. to work with the American Orchid Society to develop a proposal for exempting artificially propagated hybrids of six popular orchid genera—*Cattleya*, *Cymbidium*, *Dendrobium*, *Oncidium*, *Phalaenopsis*, and *Vanda*—from CITES permitting requirements. The rationale for such a proposal was that these genera are traded in high volumes, mostly as hybrids that are generally highly uniform in size and overall appearance. This facilitates their identification as artificially propagated specimens. At their 2002

meeting in Santiago, Chile, the CITES Parties agreed to exempt only artificially propagated *Phalaenopsis* hybrids as a test case to see if such an approach would be workable. At their most recent meeting, in Bangkok in 2004, the Parties agreed to exempt the artificially propagated hybrids of four Southeast Asian genera: *Cymbidium*, *Dendrobium*, *Phalaenopsis*, and *Vanda*.

While CITES countries continue to consider whether to deregulate elements of the orchid trade involving little or no conservation risk, it remains a challenge to protect species vulnerable to over-exploitation by the international market. As orchids become increasingly popular, CITES countries continue to work to ensure the protection of wild populations.

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Roddy Gabel

To qualify as “artificially propagated” under CITES, plants must meet specific legal and biological requirements.

To qualify as “artificially propagated” for CITES purposes, plants must be grown under controlled conditions from seeds, cuttings, or other parts, and must be derived from cultivated parental stock that was obtained legally and without detriment to the survival of the species in the wild.

Managing the Trade in Sturgeon and Paddlefish

by Laura Noguchi and Marie Maltese



Steve Kahns/Osage Catfisheries

Caviar has been considered a delicacy since ancient times.

Sturgeon caviar is one of the most expensive and sought-after wildlife products in the world. For many people, a fancy party or New Year's Eve celebration is not complete without a serving of these glistening black or golden fish eggs. Sturgeons have been prized for their roe since ancient times, and markets for caviar have increased rapidly in recent years. During the 1990s, legal global caviar trade ranged from 200 to 400 metric tons per year, a range the organization TRAFFIC estimated in 2003. With illegal trade estimated to be 6 to 10 times larger than the legal trade, demand for this delicacy has put many sturgeon populations at risk.

The order Acipenseriformes, which includes all sturgeons and paddlefishes, is a group of primitive fishes that inhabit fresh and coastal marine waters in the temperate zones of the northern hemisphere. Caught primarily for their unfertilized eggs, which are processed to

yield caviar, sturgeons and paddlefishes are particularly vulnerable to overfishing due to certain characteristics of their life history. These species are long-lived and slow to reach sexual maturity. When mature, most species spawn only once every 2 to 4 years. Heavy fishing pressure, illegal take and trade, and habitat loss and degradation have led to declines in sturgeon populations worldwide.

Because caviar is heavily traded internationally, CITES has an important role to play in sturgeon conservation. The entire order Acipenseriformes is listed in CITES Appendix II, except for two species listed in Appendix I. The CITES permitting system provides a mechanism for identifying illegal shipments and ensuring that fishing levels are sustainable. (See article on sustainable use in this issue of the *Bulletin*.)

The non-detriment finding required for issuance of CITES permits is also the focus of the CITES Review of Significant

Tennessee Technological University students gather data on paddlefish stocks in Kentucky Lake, Tennessee.



Tennessee Cooperative Fishery Research Unit/USGS

Trade, a powerful tool for promoting sustainable use of wildlife. Under such a review, species traded internationally in substantial numbers are evaluated to ensure that exporting countries are making adequate non-detriment findings, based on the best available scientific information. If non-detriment findings are not being made properly, remedial actions are recommended. Failure to respond to recommendations from the Review of Significant Trade can result in sanctions, including voluntary international trade suspensions.

In 1998, CITES countries became so concerned about the burgeoning black market for Caspian Sea caviar and the impact of international trade on the status of sturgeon populations that the entire order was recommended for the Review of Significant Trade. The review resulted in recommendations for Black Sea and Azov Sea sturgeon populations, including substantial reductions in export quotas, and a three-stage plan of action for Caspian Sea stocks.

The Caspian Sea plan included a moratorium on commercial harvest for the remainder of that year, establishment of long-term stock assessment surveys, a significant increase in efforts to combat illegal take and trade, and adoption of a collaborative basin-level management plan for sturgeon fisheries. Although the greatest concern was centered on the collapsing Caspian Sea stocks, which had supplied up to 90 percent of the global caviar market, North American species also came under scrutiny during the review. No recommendations were made for U.S. species, since the review concluded that adequate non-detriment findings were being made and trade was effectively controlled.

Beluga sturgeon (*Huso huso*), native to the Black and Caspian sea drainages, is the source of the world's most highly prized caviar. The United States is the largest importer of beluga caviar. In April 2004, the Service listed beluga sturgeon as threatened under the Endangered Species Act. This listing should help reinforce conservation measures begun

under the CITES Review of Significant Trade and support implementation of future management actions.

The North American paddlefish (*Polyodon spathula*) is the U.S. species most common in the international caviar trade. The Review of Significant Trade helped focus attention on the status and management of U.S. paddlefish populations. Since it was listed in CITES Appendix II in 1992, exports of wild-caught paddlefish roe have increased sharply, fueled at least in part by the decreasing Caspian Sea caviar supply. During 2000-2001, more than 5,000 kilograms (11,000 pounds) of wild-caught paddlefish caviar were exported from the United States. Increasing demand and attractive prices continue to put pressure on U.S. populations and provide incentives for illegal trafficking. Roe from one paddlefish can yield \$300 to the fisherman and up to \$1,300 to the retailer if it is sold as domestic caviar, or \$2,400 if it is mislabeled and sold as counterfeit Russian caviar.

Implementation of CITES requirements in the United States has provided the Service an opportunity to work with other federal and state agencies to promote long-term sustainable use of paddlefish. The Service works with state law enforcement agencies to uncover false labeling schemes and poaching rings, and is an active member of the Paddlefish/Sturgeon Subcommittee of the Mississippi Interstate Cooperative Resource Agreement.

In the case of sturgeon and paddlefish, CITES provides an impetus for countries and the responsible bodies within countries to manage species collaboratively in order to ensure their survival in the wild. This includes focusing worldwide enforcement efforts on eliminating illegal and unsustainable international trade.

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Tennessee Cooperative Fishery Research Unit/USGS

A partnership involving federal, state, and academic interests is producing valuable data about the status of a heavily exploited fish population. A two-year U.S. Geological Survey/ Fish and Wildlife Service Science Support grant to the Tennessee Technological University's Cooperative Research Unit is assessing paddlefish stocks and the commercial fishery in Kentucky Lake, Tennessee. This site provides 80 to 90 percent of the state's catch. An additional one-year grant funds a study of post-release mortality of juvenile, male, and non-reproductive female paddlefish taken in the commercial fishery.

Enforcement Starts with Wildlife Inspectors

by Sandra Cleva



USFWS

Service Inspector Coleen Brown checks a tropical fish shipment at Los Angeles International Airport to ensure that all regulatory requirements have been met.

Wildlife Inspection Program at a Glance

Statistical Overview

Number of inspectors	122*
Number of designated ports.....	17
Number of other staffed locations.....	16
Number of shipments per year	150,000+
Increase in U.S. wildlife trade, 1992-2004	47%

Trade Enforcement Responsibilities

- CITES
- African Elephant Conservation Act
- Eagle Protection Act
- Endangered Species Act
- Lacey Act**
- Migratory Bird Treaty Act
- Marine Mammal Protection Act
- Rhinoceros & Tiger Conservation Act
- Wild Bird Conservation Act

* 119 stationed at ports; 3 senior inspectors deal with policy, program oversight, and training

** Bans import of any species taken in violation of another country's wildlife laws and prohibits trade in "injurious" species

Most countries depend on customs officers to enforce CITES, but the United States is an exception. Here, professional wildlife inspectors, trained in skills that range from species identification to detecting document fraud, are the front-line defense against illegal wildlife trade. These uniformed import/export control officers inspect wildlife shipments to ensure compliance not only with CITES, but with an array of U.S. and foreign laws that regulate wildlife trade (see sidebar).

Launched in 1975, the year the CITES treaty took effect, the Fish and Wildlife Service wildlife inspection program focuses exclusively on trade enforcement. "As one of the world's largest importers, we have an important role to play in wildlife trade enforcement," says Kevin Adams, Chief of the Office of Law Enforcement. "The work of our wildlife inspectors is critical to upholding CITES in the United States."



Kimberly Hamilton/USFWS

Early Days

Even before signing the CITES treaty in 1973, the U.S. had begun grappling with the need to police the wildlife trade. The Service first funneled wildlife shipments through designated ports to facilitate the enforcement of import prohibitions created by the Endangered Species Conservation Act of 1969.

Special agents stationed in eight major U.S. cities (New York, Chicago, Miami, New Orleans, Los Angeles, San Francisco, Seattle, and Honolulu) took on basic trade monitoring responsibilities. However, the expanded prohibitions of the 1973 Endangered Species Act and the advent of CITES increased this workload, prompting Service law enforcement managers to try a new approach.

In 1975, the first wildlife inspectors were hired in New York City and assigned to examine and clear arriving shipments. The program expanded the following year, with the employment of inspectors at the Service's seven other designated ports. These new officers faced many challenges.

"Enforcement was haphazard," recalls Supervisory Wildlife Inspector Robert Onda, who started working with the inspection program in New York in 1975. "We had no guidelines, so we were inventing the job as we went. We lacked basic contacts in other countries for checking permits and resolving problems. We also had to get the word out about CITES and our inspection requirements to airlines, companies, brokers, even U.S. Customs."

Wildlife Inspector Bruce Walker inspects a live reptile shipment at Miami International Airport. Miami is a major port of entry for live CITES species.

Keeping Up with Trade and the Treaty

Both the volume of trade and the number of CITES species have grown since the mid-1970s, as has the wildlife inspection program. Inspectors now staff 17 designated ports and provide limited inspection services at 16 other locations.

"We've also seen the trade and CITES become more complex," says Senior Wildlife Inspector Sheila Einsweiler, a 16-year program veteran who handles inspection policy issues at the national level. "Many CITES listings now come with complicated annotations. Our inspectors must know about trade restrictions for specific countries or commodities. There's so much to remember and do on a daily basis."

Long-time inspectors like Onda agree. "The responsibilities and amount of information are enormous," he said. "We must identify thousands of species in all forms and know the requirements for each. We inspect, but that's only part of the job."

"Wildlife inspectors do it all," Einsweiler says. "We ask a lot of our people. Inspectors are there to stop smuggling, but they also have a customer service role to fill in checking and clearing legitimate shipments."

Balancing these dual roles can be difficult, particularly at busy ports like New York. "It's a 'hurry-up-I-want-it-yesterday' business," Onda explains. "We can't keep up with the volume even with weekend and overtime work."

But inspectors also need time to conduct random inspections or special enforcement blitzes. During the summer of 2003, for example, inspectors in New York stopped 14 shipments containing bushmeat (including rodents banned as possible carriers of the monkeypox virus) by targeting incoming flights from Africa.

Looking Ahead

The Office of Law Enforcement is working to bolster U.S. CITES enforcement capability. In recent years, for example, the Office expanded cross-training, introducing thousands of new Customs and Border Protection officers to the basics of wildlife import/export enforcement.

Technology may also help. Einsweiler sees access to tools such as computerized species identification databases and the prospect of "e-permitting" and "e-clearances" as a way to counterbalance the growing complexity of CITES enforcement and the increasing demand for inspection services.

"We're only at the tip of the iceberg in using technology to streamline what we do," Einsweiler says. She points to the Service's electronic system for declaring wildlife shipments and the wealth of import/export compliance information now available via the Service website as the beginning of a process that should expedite legal trade, freeing officers to focus more on efforts to interdict wildlife smuggling.



Wildlife Inspector Karen Gorr opens a crated trophy shipment in Houston.



In Seattle, wildlife inspector Mike Williams (right) suits up in protective gear to check out a shipment of live primates imported by a research lab. Inspectors must take safety precautions when inspecting certain types of shipments.

Technology and cross-training may help the inspection program police wildlife trade, but the individual wildlife inspector promises to remain the heart and soul of CITES enforcement in the U.S. "People come to this job because they're dedicated," Onda says with pride. "We have conviction. We believe in what we're doing."

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Room at the Table: Voices of NGOs

by Mary Maruca

Non-governmental organizations (NGOs) bring a broad range of viewpoints and perspectives to CITES. They play a vital role and have much to offer to the debates and negotiations at meetings of the Conference of the Parties (COP), as well as committee and working group meetings. To qualify as a CITES “observer,” an NGO must be technically qualified in “protection, conservation, or management of wild fauna and flora.” Under the treaty, these observers then have the right to participate, enabling them to offer vital research information, facilitate international projects, provide funding, and express critical points of view. The only thing they can’t do is participate in CITES votes.

Through the years, many NGOs have participated in CITES issues. To demonstrate the range of views, representatives of three NGOs agreed to share their thoughts. Rick Parsons, Director of Governmental Affairs for Safari Club International (SCI); Teresa Telecky, a

consultant with The Humane Society of the U.S. (HSUS); and Ginette Hemley, Vice President for Species Conservation, World Wildlife Fund (WWF), were asked to respond to written questions.

Q: *Would you briefly chart your organization’s role—when and how it first participated in CITES activities?*

GH: WWF played an instrumental role in the development of CITES, beginning with advocacy and technical preparation in the 1960s. Together with IUCN—the World Conservation Union—we were the principal NGO behind drafting the treaty text, building on global commitments by governments at the 1972 Stockholm Conference on the Environment.

TT: Since it was founded in 1954, HSUS has been concerned about harm to species and individual animals caused by international wildlife trade. We welcomed efforts in the 1960s to address this and participated in discussions eventually leading to the CITES treaty.

RP: SCI has been actively involved in CITES since 1983, when it sent a delegation to COP4 in Botswana. We have attended every COP since then, providing policy, legal, and technical input on all issues in which we have competence.

GH: After CITES came into force in 1975, IUCN founded TRAFFIC to help implement the Convention and provide an independent wildlife trade monitoring body. WWF cosponsored TRAFFIC in 1979. During the last 23 years, TRAFFIC has grown into a global network of 22 offices around the world, collaborating with the CITES Secretariat and other partners.

TT: Although our CITES involvement once focused on the CITES meetings, HSUS now is involved in CITES year round. We provide funding for CITES

CITES delegates and NGOs in the Committee Room at COP12.



Laura Naguchi/USFWS



NGOs used this large, inflatable balloon to draw attention to their support of the whale sharks species proposal being considered at COP12 in Santiago, Chile.

activities, such as a recent workshop on the freshwater turtle and tortoise trade. We also participate in the Species Survival Network, a coalition of more than 70 non-governmental organizations worldwide that work on CITES issues.

Q: On July 1, 2005, CITES celebrated the 30th anniversary of the date it entered into force. During your CITES involvement, how has the participation of your organization changed?

RP: As SCI's capabilities have grown, we have provided more technical advice, primarily on effective methodologies for wildlife management, using the concepts of sustainable use and adaptive management and conservation/hunting programs. Also, we have educated our members on CITES requirements to ensure high voluntary compliance.

TT: From the HSUS perspective, we have intensified our CITES involvement, because the relationship between CITES and our domestic laws also has intensified. This occurred in the 1980s when growing imports of wild-caught birds for the pet trade spurred HSUS and other NGOs to advocate the passage of the Wild Bird Conservation Act, now intricately linked to CITES. We also helped formulate a CITES resolution addressing

the global wild-caught bird trade, which resulted in a resolution on the "significant trade process" important in CITES today.

GH: Wildlife trade issues have significantly increased in complexity through the years. WWF has maintained a leadership role in CITES because of the importance of the treaty to the global conservation agenda. While continuing to support the application of CITES in the traditional sense, TRAFFIC has developed a wider role that includes major commercial sectors such as fisheries and timber trade, development, and livelihood issues.

Q: What do you consider the greatest overall contribution of your organization to CITES?

TT: HSUS believes that CITES deliberations must be open and transparent, and that they profit tremendously from information provided by NGOs. We have worked the past 13 years to increase such participation.

RP: The greatest challenge for us has been effectively communicating our information to delegates faced with ever expanding issues and materials at each COP. We believe we have brought them a new perspective on the role of hunting in modern conservation and the benefits to wildlife from well-managed hunting/conservation programs.

GH: Because of WWF's global reach, one of our greatest contributions has been increasing public awareness of CITES and the threat of wildlife trade to numerous species. We also have played a major role in bringing wide-ranging stakeholders to the table to discuss divisive issues such as trade in live wild birds and crocodylian skins.

Q: Finally, what future new directions and challenges do you anticipate?

RP: We expect more governments will recognize that sustainable use is an effective method of conservation. As pressure on wildlife resources and habitats grows, sustainable use offers a conservation method with solid economic value for local communities. Unless wildlife has economic value for people who deal with it every day, it will disappear.

TT: For HSUS, we believe the focus right now needs to be on the treaty. Efforts must be made to bring all participants up to speed on CITES issues and to encourage them to make their views known. The greater the number of informed participants, the more robust the CITES decisions—and this benefits everyone, most especially the wildlife.

GH: We believe that a key to CITES' success will be the effective implementation of Appendix II. To ensure this happens, more funds, technical expertise, and involvement of industry are needed. WWF would like to see Parties move beyond an "endangered species" approach to also ensure the security of wild resources that meet food, economic, and other human needs. This approach will require both innovation and flexibility, allowing CITES to become part of an integrated management effort that interacts effectively with other multilateral environmental agreements such as the Convention on Biodiversity.

Mary Maruca was a writer/editor with the Service's International Affairs Program in Arlington, Virginia, before accepting a new position with the Department of the Interior.

Species Conservation Under Appendix I

by Maggie Tieger



Corel Corp.

One of the most complex aspects of trade in tigers and rhinos is their continued use in traditional Asian medicine, which has been practiced for thousands of years. Tiger bone is used to treat arthritis and muscular atrophy, and rhino horn to treat fevers, convulsions, and delirium. In 1997, CITES countries adopted measures to protect endangered species used in Asian medicines and to avoid other species becoming over-exploited. Countries were asked to work closely with traditional medicine practitioners and consumers in developing public education and awareness programs, and to investigate the use of sustainable alternatives. In the U.S., that effort is mandated by the Rhinoceros and Tiger Conservation Act.

Of the over 33,000 species protected by CITES, about 900 are in Appendix I, which consists of animals and plants threatened with extinction. Appendix I includes rhinoceroses, lemurs, the tiger, the Andean condor, Spix's macaw, sea turtles, the Galapagos tortoise, and the monkey-puzzle tree.

Concerned for the plight of these highly endangered species, CITES countries have sought long-term solutions, beyond the narrow trade focus of the Convention, to protect and conserve them. Both range countries and consuming countries are urged to take action to reduce poaching and illegal trade, and to adopt and implement national wildlife legislation and enforcement controls. In addition, CITES calls upon governments, international aid agencies, and non-governmental organizations to provide funding and other support for broader research and conservation efforts.

U.S. law mirrors our country's support for international species protection and conservation. Congress has passed not only the Endangered Species Act but also a number of other conservation laws to assist certain species at risk (rhinos, tigers, elephants, great apes, and marine turtles). Each of these laws establishes a fund to be administered through a competitive grant program by the Fish and Wildlife Service's Division of International Conservation. For each species, the Service supports projects addressing research, management, human-wildlife conflict resolution, community outreach, conservation education, and law enforcement. It develops in-country partnerships with natural resource agencies, academic institutions, local community groups, government and non-government entities, and others committed to benefiting these highly endangered species.

Rhinoceros and Tiger Conservation

Fund Rhinos and tigers are among the most charismatic and endangered species on earth. Five species of Asian and African rhinos are listed as endangered under the Endangered Species Act. Only five of the seven historically known subspecies of tigers remain, totaling 5,000 to 7,500 animals in the wild. Commercial poaching, a declining prey base due to over hunting, and loss of habitat are principal threats. The rhinoceros and tiger conservation funds seek to strengthen the conservation activities of the range countries since the ultimate survival of rhinos and tigers in the wild rests with the managers, scientists, and communities in those countries. For example, the fund is partially supporting the efforts of the Bangladesh Forest Department and the University of Minnesota to develop a cooperative scientific approach to tiger assessment in the Sundarban River swamp. This swamp is formed by the confluence of the Ganges, Brahmaputra, and Meghna rivers just before their waters enter the Bay of Bengal. It is believed to be home to one of the largest remaining tiger populations and, due to

Training programs in Kenya educate local wildlife managers, scientists, and community leader on rhino (see background) conservation laws and techniques.



World Conservation Union (IUCN)
African Rhino Specialist Group

twice-a-day tidal inundation, a unique habitat in which the tiger resides.

African Elephant Conservation

Fund African elephants face a variety of challenges. In many areas, they are hunted illegally for ivory and bushmeat. In other places, due to their increased numbers in confined protected areas, they damage their environment and conflict with local human populations. Most African countries lack the financial resources to adequately conserve and manage elephants. Thus, building the capacity to provide trained and equipped personnel to resolve elephant conservation issues is important. This fund is currently supporting the Garamba National Park, in the Democratic Republic of the Congo, by furnishing equipment and training to improve the effectiveness and safety of anti-poaching teams who protect the park's elephant and unique northern white rhino populations.

Asian Elephant Conservation Fund

Asian elephants share a land mass with some of the largest human populations in the world, and habitat loss is the single greatest threat to the survival of these animals. Their geographic range has declined approximately 70 percent since the 1960s. Only 35,000 to 45,000 Asian elephants survive in the wild. To help protect Asian elephants in Cambodia's Cardamom Mountains, the largest elephant range in Cambodia, the fund has supported law enforcement training, patrolling, and elephant monitoring efforts of some 30 government rangers and 15 community-based wildlife population monitors. Although, after 30 years of war and civil unrest in Cambodia, the Cardamom Mountains are now home to only 200 to 300 elephants, we believe that the habitat, with protection, could easily support several thousand.

Great Ape Conservation Fund Apes are, by their biological nature, extremely vulnerable species. They form complex social groupings, grow relatively slowly, and have low reproductive rates. Great apes were once protected by the isolation of densely forested and mostly unexplored habitats. Now they experience



Richard Ruggiero/USFWS

Mountain gorilla population being monitored in Rwanda.

increased pressure from human populations that invade and change their world. Roads built by logging and mining companies give hunters and slash-and-burn farmers access to once remote forests. Increasing human populations demand more from the forest: land for cultivation, valuable tropical timber species, diamonds, gold, and, most devastating for forest wildlife, bushmeat. This fund assists in the conservation and protection of five groups of primates: chimpanzees, gorillas, bonobos, orangutans, and gibbons. Among other projects, it supports the International Gorilla Conservation Ranger-based Monitoring Program that protects mountain gorillas in the Albertine Rift of Rwanda, Uganda, and the Democratic Republic of the Congo.

Marine Turtle Conservation Fund

All marine turtles in the world are listed under the Endangered Species Act and six of the seven species are considered imperiled by the World Conservation Union. Once abundant, marine turtle populations in the Indian, Atlantic, and Pacific oceans are a fraction of their levels prior to human over-exploitation. Because marine turtles are highly migratory and far ranging species, successful conservation requires long term efforts and close cooperation among countries sharing the same oceans. The Marine

Turtle Conservation Act, signed into law in 2004, established a dedicated fund administered by the Service to support a range of conservation efforts protecting nesting populations and beaches in foreign countries.

The conservation of Appendix-I species is of global concern, and action needed goes beyond the scope of CITES. Broad international and domestic efforts in many countries are required to ensure these highly vulnerable species survive.

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Mushrooms and the Future of CITES

by Peter Thomas



Larry Evans, Western Montana Mycological Assn.

Matsutake mushrooms

At the opening session of the twelfth meeting of the CITES Conference of the Parties (COP) in Santiago, Chile, in 2002, I listened in fascination as delegates from 160 member countries debated whether CITES should cover mushrooms. While no proposal to list fungi was on the table, the question arose over a possible proposal to list the American matsutake mushroom.

The treaty's title makes clear that it covers "trade in endangered species of wild fauna and flora." But did "flora" include mushrooms at the time the treaty was negotiated in the early 1970s? In 1961, taxonomists began to split the fungi into a separate kingdom from plants, a change that took some time, but the COP12 debate centered on whether the original negotiators of the treaty thought it covered all plants in trade in the broadest sense. Japan and China did not think fungi fell within the jurisdiction of CITES and expressed doubt that any species

of fungus was endangered by trade, an assertion questioned by Kenya, Mexico, and Peru. In the end, the Parties adopted a recommendation that CITES should be considered to apply to fungi, with a reservation by the delegation of Japan.

Whether this decision will lead to the listing of a fungus under the CITES appendices is still to be determined, but it reflects a broader trait of the CITES Parties. They are forward thinking and not afraid to move into new territory as they seek to protect species from over-exploitation due to international trade.

During the first decade of CITES, Parties focused their conservation attention on the large number of species initially listed. Furbearers, large mammals (such as elephants, rhinos, and tigers), crocodilians, and ornamental birds traditionally impacted by wildlife trade benefited from CITES actions. However, in the late 1980s, as concern grew for the sustainability of fisheries and timber



USDA APHIS

Bigleaf mahogany lumber at the port of entry to the United States.

Right: At COP12 in 2002, bigleaf mahogany was the first major commercial timber species placed on Appendix II.



J. Gorgan, Yale University, Imazon

extraction and the impacts of such harvest on major ecosystems, proposals to list new, high-volume commercial species began to appear on the CITES agenda.

Such proposals generated great controversy, provoking questions of whether CITES was intended to deal with such species. When I began working on CITES in 1991, a proposal to list Atlantic bluefin tuna was being prepared by the United States. Within the U.S. government, experts differed on whether a CITES listing should supplant the fisheries management for tuna already in place.

At COP8 in Kyoto, Japan (1992), the proposal was hotly debated. While the proposal was rejected, the continued threat of CITES action led to a change for the better in tuna management. Generally, when other management bodies are in place for marine species, the threat of CITES listing has motivated those bodies to enact or better implement sustainable management goals. Where appropriate management bodies don't exist, CITES has stepped in, as exemplified by the listing of the whale shark and basking shark at COP12 and the great white shark and humphead wrasse at COP13.

COP8 also saw a proposal to list the bigleaf mahogany (*Swietenia macrophylla*) on CITES Appendix II. This was the first major commercial timber species to be considered for such a listing. The Parties could not agree to the listing, despite evidence of unsustainable and uncontrolled harvest.

At COP 10 in Harare, Zimbabwe (1997), a colleague and I had responsibility for marketing a new U.S./Bolivian proposal to list the species on Appendix II. We met unbending resistance from Brazil and could not achieve the two-thirds majority vote required. Finally, under threat of a call for a re-vote, we persuaded Brazil to join with other range countries to each list bigleaf mahogany on Appendix III, a measure that brought the trade under CITES review.

Eleven years after action on the tree was first proposed, with conservation concern still high and despite new mea-



NOAA

While the CITES proposal to list Atlantic bluefin tuna in 1992 was rejected, the continued threat of CITES action led to a change for the better in tuna management.

asures in some countries (a moratorium on harvest and trade in place in Brazil), CITES member nations agreed at COP12 to place bigleaf mahogany on Appendix II. The U.S. supported the proposal on the strength of scientific concern over the status of the species and the conviction that placing the trade under the unique requirements of CITES would support the efforts of range countries to base continued trade on legal and sustainable harvest.

I expect that CITES will continue to explore new arenas and consider new species for protection as threats from trade continue, as habitat degradation or destruction jeopardizes species already in trade, and as new species come under greater trade pressure. Versatility was a CITES trademark at its inception in 1973 and continues to characterize the treaty today.

In 2001, the CITES Parties adopted a five-year Strategic Vision "to ensure that no species of wild fauna or flora becomes or remains subject to unsustainable exploitation because of international trade." One of the goals is to increase cooperation with other international organizations.

Many international organizations have sustainable development among their objectives, though emphases may vary. I have represented the U.S. during contentious negotiations on CITES and the U.N. Food and Agriculture Organization (FAO) regarding marine species. Along

with sustainable development, FAO has strong food security and commercial development goals, which some of its member countries (the major fisheries nations) see as at odds with CITES' sustainability efforts.

In contrast, strong collaboration among a variety of organizations has enhanced efforts to address the bushmeat crisis in Central Africa. Bushmeat refers to any terrestrial wild animal, including elephants, gorillas, antelopes, and pangolins, used for food. At COP11, the CITES Parties established the Bushmeat Working Group and invited other organizations, such as the Convention on Biological Diversity, to participate. Each organization in the working group has brought forward unique expertise to support regional efforts to tackle unsustainable harvest and trade in bushmeat.

No mushrooms may yet be listed on CITES, but the discussions that opened COP12 highlight the willingness of Parties to conserve all living things at risk from the demands of international trade. CITES reminds us that all nations must contribute to the appropriate regulation of wildlife trade so that the diversity of the Earth will be sustained for future generations.

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by Brian Czech

Ivory-Billed Woodpecker Found “Cached Away”

They don't call it the Cache River National Wildlife Refuge for nothing! In this case, the precious cargo “cached away” was a species long thought to be extinct. The rediscovery of the ivory-billed woodpecker (*Campephilus principalis*) in Arkansas, announced April 28, 2005, is one of the most memorable events in the history of the National Wildlife Refuge System and North American ornithology. As John Fitzpatrick, director of the Cornell Laboratory of Ornithology, put it, “This is really the most spectacular creature we could imagine rediscovering” (Lemoine 2005).

The ivory-billed woodpecker is the largest woodpecker species north of Mexico and the third largest in the

world. It stands nearly 20 inches (50 centimeters) tall and has a wingspan of 30 inches (76 cm). This woodpecker has a lifespan approaching 15 years.

The ivory-bill was a natural denizen of old-growth forests in the southeastern United States and Cuba. It used its large bill to strip the bark from trees that had recently died, exposing the beetle larvae that served as its dietary staple. Recently dead trees are usually not found in high densities, so the somewhat nomadic woodpecker required extensive stands of old-growth forest.

The ivory-billed woodpecker was listed in 1967 as endangered. By then, it was already considered extirpated from the wild, except possibly in Cuba. The last confirmed sighting in the U.S. had

A colorized historical image of an ivory-billed woodpecker at its nest.



George M. Sittler, Cornell Lab of Ornithology

been in 1944 in an area that is now part of the Tensas River National Wildlife Refuge in northeast Louisiana, about 175 miles (280 kilometers) south of the Cache River basin.

The current population of ivory-billed woodpeckers is unknown. Dennis Widner, manager of the Central Arkansas National Wildlife Refuge Complex (which includes Bald Knob, Big Lake, and Wapanocca national wildlife refuges in addition to Cache River), was the original manager at Cache River, beginning in 1987. Dennis hazards a guess that perhaps as many as 20 pairs occupy the bottomland hardwoods from Cache River south to (and probably including) the White River National Wildlife Refuge, which encompasses almost 90 miles (145 km) of the White River in Arkansas down to the Mississippi River.

The Cache River Refuge currently consists of 61,000 acres (24,690 hectares), while the White River Refuge consists of 157,000 acres (63,538 ha). Both refuges, along with several state wildlife management areas, constitute a long habitat lifeline that Dennis describes as “the best of the best” of bottomland hardwoods remaining in the South. Nuttall oak (*Quercus nuttallii*) and sweetgum (*Liquidambar styraciflua*) seem to be the key ingredients of the woodpecker’s habitat. Upon their death, these trees harbor the beetles that nourish the woodpeckers. Further into the decay process, oaks, sweetgum, and other big bottomland trees provide the cavities that serve as woodpecker nesting sites.

The reasons for the woodpecker’s decline are fairly straightforward. In the 19th century, their ample white beaks made them a favorite in the display cases of wealthy collectors. Toward the end of the century, these birds and many others with fabulous feathers were killed for their plumage, which went to festoon the hats of high-fashion ladies.



Dennis Widner, manager of Cache River NWR, briefs the press about the exciting rediscovery.

USFWS



Scaling of tree bark, a possible sign of ivory-bill foraging.

USFWS



USFWS

Ivory-billed woodpecker habitat at Cache River NWR.

But the major cause of the woodpecker's decline, as with so many endangered species, was habitat loss. In the early part of the 20th century, the logging industry turned from the Midwest to the bald cypress and hardwood bottomlands of the South. Eventually, the conversion of these forests to agricultural production took a heavy toll on the ivory-billed woodpecker.

The history of the National Wildlife Refuge System is one of protecting remaining habitats and, when possible, restoring lost habitats. The refuges of central Arkansas are a classic example. The White River and Cache River refuges were established in 1935 and 1986, respectively, primarily for migratory birds. However, the mission of the Refuge System has evolved to include the maintenance and restoration of ecological integrity, including biodiversity conservation. The Cache River Refuge balances its traditional purposes with the evolving mission of the Refuge System. The bottomland hardwoods have

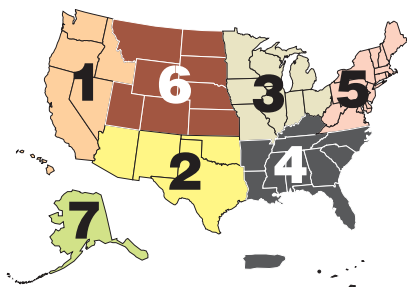
always been outstanding wintering areas for mallards, wood ducks, and other waterfowl prized by hunters, as well as a host of other migratory birds that continue to flock to the central Arkansas refuges. Fortunately, Dennis Widner and his colleagues have been managing the refuges in a manner conducive to the woodpecker's survival by maintaining uneven-aged, old-growth forests and by restoring old agricultural lands to bottomland hardwood habitat. Now, with a new lease on the woodpecker's life, they can continue with renewed vigor and broad-based support.

The authorized acquisition boundary for Cache River Refuge encompasses 176,000 acres (71,230 ha), which means that 115,000 acres (46,540 ha), in addition to those acres already acquired, are approved for acquisition pending the landowners' willingness to sell. It is reasonable to assume that the protection of these lands will be gain new emphasis if we are to bring this great bird back from the brink of extinction.

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Region 2

For this edition of the Bulletin, Region 2 has provided the following news:

Butterfly Conservation Plan

The U.S. Fish and Wildlife Service-Southwest Region, U.S. Forest Service-Lincoln National Forest, Otero County, and the Village of Cloudcroft have collaborated on a conservation plan for the Sacramento Mountains checkerspot butterfly (*Euphydryas anicia cloudcrofti*), an orange and black butterfly that lives in the high elevation meadows of Otero County, New Mexico.

After the Sacramento Mountains checkerspot was proposed for listing in 2001 as an endangered species, partners developed the conservation plan in 2004 to address the butterfly's habitat needs. The Service announced on December 21, 2004, that the butterfly would not be added to the list because the threats to its existence have lessened.

The four objectives of the plan are to: 1) eliminate the destruction, modification, and/or curtailment of the butterfly's habitat while identifying and implementing measures to control future threats; 2) ensure that the species is not over-utilized for commercial, recreational, scientific, or educational purposes; 3) ensure adequate protection by way of agreements and regulatory measures; and 4) support research, outreach, and education efforts. Partners will continue to work together and with the public to implement and assess conservation measures for the species.

Final Recovery Plan A plan to recover the Zapata bladderpod (*Lesquerella thamnophila*) was approved by the Southwest Regional Director in 2004, with concurrence from the Executive Director of the Texas Parks and Wildlife Department. This plant was listed in 1999 as endangered.

A member of the mustard family (Brassicaceae), the Zapata bladderpod is one of many plant species with ranges that straddle the Mexico/United States border. Historic records indicate that it occurred in Starr and Zapata Counties in Texas, and in the state of Tamaulipas, Mexico. Factors leading to the species' decline include habitat modification and destruction from increased road construction, conversion of native plant communities to improved pastures, and incompatible grazing regimes.

Currently, seven populations are known to exist in south Texas. They occur on Lower Rio Grande Valley National Wildlife Refuge property, private property, and highway rights-of-way. Other populations may exist on private land. The Zapata bladderpod has not been verified in Mexico in recent years.

The recovery plan is an important tool for private landowners who may be interested in contributing to Zapata bladderpod recovery, and it will stimulate cooperation between the United States and Mexico. To downlist the species from endangered to threatened, 12 fully protected, self-sustaining populations must be established and maintained on federal, state, or private land. The plan provides information for private landowners who may be interested in surveying for and recovering the species on their land. Delisting criteria will be established as additional information about the species' life history and habitat requirements are gained.



Sacramento Mountains checkerspot butterfly

Draft Recovery Plans

Sentry Milk-vetch The Sentry milk-vetch (*Astragalus cremnophyllax* var. *cremnophyllax*) is an endangered plant in the pea family (Fabaceae). Its Latin name, which translates as "watchman of the gorge," alludes to its perch on the high limestone ledges of the Grand Canyon, where it is known from up to three locations on the South Rim and possibly one on the North Rim. It was listed as endangered in 1990 due to threats from habitat destruction and modification, extreme rarity, and low reproduction. The Fish and Wildlife Service, National Park Service staff at Grand Canyon National Park, and researchers have worked cooperatively to manage, monitor, and study these populations, including installation of fencing and signs around the largest population.

An opportunity for the public to review and comment on the draft recovery plan for Sentry milk-vetch was provided from September 14 to October 14, 2004, and again from January 10 to February 9, 2005. The final recovery plan, which will incorporate public and peer review comments, is expected in the fall of 2005.

Pecos Sunflower The Pecos sunflower (*Helianthus paradoxus*) is an annual that grows on wet, alkaline soils at spring seeps, wet meadows, and pond margins in New Mexico and Texas. Its occurrence in desert wetland habitat is unique, and it is associated with habitats that are limited and at risk for further decline. The Pecos sunflower was federally listed as threatened in 1999, and is also listed as threatened by the state of Texas and as endangered by the state of New Mexico.

The Pecos sunflower currently occurs in several widely spaced populations in west-central and eastern New Mexico and west Texas. The primary threat to this species is loss and/or alteration of wetland habitat due to surface water diversion and wetland filling for agriculture and recreational uses, and groundwater pumping and aquifer depletion for municipal uses. In addition, the species is potentially vulnerable to competition by nonnative invasive vegetation such as tamarisk, habitat altering activities such as overgrazing or mowing, and the long-term drought in the Southwest.

Julia McIntyre

A draft recovery plan for the Pecos sunflower was available for public review and comment from July 2 to August 2, 2004, and again from September 14 to October 14, 2004. Recovery actions include identifying and securing core habitat, continuing research, and working with landowners to develop conservation partnerships and ensure compliance with existing regulations. Some core conservation areas have already been identified and secured. A relatively large population was discovered on state lands in New Mexico in 2004. A Cooperative Endangered Species Conservation Fund grant was awarded to the New Mexico Energy, Minerals and Natural Resources Department in 2004 to secure Pecos sunflower habitat in Santa Rosa, New Mexico. A final recovery plan is expected in the fall of 2005.

Barton Springs Salamander The Barton Springs salamander (*Eurycea sosorum*) has one of the smallest geographic ranges of any vertebrate species in North America. It is known from only four spring outlets that make up Barton Springs, located within Zilker Park in the City of Austin, Texas. Because the Barton Springs salamander depends on constant, clean flowing spring waters for its survival, the primary threats to this endangered species include degradation of water quality and quantity resulting from rapidly expanding urbanization. The Service is working with the City of Austin, Texas Parks and Wildlife Department, U.S. Geological Survey, Lower Colorado River Authority, Barton Springs/Edwards Aquifer Conservation District, developers, private property owners, and others on conservation measures to conserve the salamander's habitat.

A draft Barton Springs Recovery Plan was available for public review from January 25 to March 28, 2005. Proposed recovery criteria include: 1) establishing mechanisms to protect water quality; 2) developing and implementing a comprehensive plan to avoid and/or completely contain hazardous materials spills; 3) developing and implementing a plan to ensure continuous spring flows at Barton Springs; and 4) establishing captive breeding populations. A final recovery plan is expected in the fall of 2005.



Pecos sunflower

Robert Sivinski



Barton Springs salamander

Lisa O'Donnell



USFWS

Devils River minnow

Devils River Minnow The Devils River minnow (*Dionda diaboli*) is a small fish found in three spring-fed streams in Val Verde and Kinney Counties, Texas, all tributaries to the Río Grande. The species is believed to be extirpated from the Río San Carlos in Mexico, and its status in the Río Salado drainage is unknown. Habitat loss, and degradation of water quality and quantity, and impacts from nonnative species led to the listing of the species as threatened in 1999.

A draft recovery plan for the species was available for public review from February 23, 2005, to April 11, 2005. Draft recovery criteria include: 1) population monitoring to verify stable or increasing population trends throughout its range; 2) ensuring adequate stream flows through state or local groundwater management plans, or equivalent binding documents; 3) protection of surface water quality by demonstrated compliance with water quality standards and implementation of water quality controls; and 4) successful management and control of nonnative species by local, regional, state, and federal authorities. A final recovery plan is expected in the fall of 2005.

Whooping Crane The whooping crane (*Grus americana*) is a “flagship” species for the Service’s endangered species recovery program. Whooping cranes occur only in North America, currently existing in the wild at three locations east of the Rocky Mountains and at eight sites in captivity. From a low of only 21 birds in 1941, the total estimated number of whooping cranes has risen slowly to more than 400 birds. Historic population declines resulted from habitat destruction, shooting, and displacement by human-related activities. Current threats include the limited genetics of the population, loss and degradation of migration stopover habitat, collisions with power lines, degradation of coastal habitat, and the threat of chemical spills.

A draft revised recovery plan for the whooping crane was released for public review and comment on January 11, 2005. The recovery strategy includes protecting the bird’s breeding, wintering, and migration habitat; protecting and facilitating the growth of the current wild population that migrates from Wood Buffalo National Park in Canada to Aransas National Wildlife Refuge on the Texas coast; establishing two additional self-sustaining populations of whooping cranes in the wild; and maintaining a genetically healthy captive population. In 2004, the Aransas-Wood Buffalo population exceeded 200 birds, a milestone towards the species’ recovery. A final revised recovery plan is expected during the fall of 2005.

Five-year Status Reviews

Pursuant to section 4(c)(2)(A) of the Endangered Species Act, Region 2 is reviewing the status of several threatened and endangered species: a plant called the Holy Ghost ipomopsis (*Ipomopsis sancti-spiritus*), Kuenzler hedgehog cactus (*Echinocereus fendleri* var. *knuezleri*), Barton Springs salamander, lesser long-nosed bat (*Leptonycteris curasoae verbabuenae*), black-capped vireo (*Vireo atricapilla*), Yuma clapper rail (*Rallus longirostris yumanensis*), Pima pineapple cactus (*Coryphantha scheberi* var. *robustispina*), gypsum wild-buckwheat (*Erigonum gypsophilum*), Mesa Verde cactus (*Sclerocactus mesae-verde*), and Zuni fleabane (*Erigeron rhizomatus*). Additional 5-year reviews will be initiated for Fiscal Year 2006 and announced in the *Federal Register* during the fall of 2005.

Sonoran pronghorn



Arizona Game and Fish Department

Good News for the Sonoran Pronghorn














A recent biennial survey indicates that the Sonoran pronghorn (*Antilocapra americana sonoriensis*) population in the U.S. has rebounded significantly from its low of approximately 20 animals in 2002. The Arizona Game and Fish Department, in cooperation with the Fish and Wildlife Service, National Park Service, Air Force, and Marine Corps, counted 39 animals on Cabeza Prieta National Wildlife Refuge and surrounding lands near Ajo, Arizona, during the December 2004 survey.

The population increase comes on the heels of emergency conservation measures implemented in 2002 and 2003, including habitat improvements and watering provisions. In addition, several does and one male pronghorn have been translocated to a captive breeding enclosure on Cabeza Prieta National Wildlife Refuge, to provide a protected breeding area from which pronghorn will later be released. Based on habitat improvements, survey numbers, and the continued support of our partners, there is increasing hope for the pronghorn’s survival.

Reported by Tracy Scheffler, Division of Threatened and Endangered Species, Southwest Regional Office. For more information, call her at (505) 248-6920, or send email to Tracy_Scheffler@fws.gov or Wendy_Brown@fws.gov.

BOX SCORE

Listings and Recovery Plans as of August 5, 2005

GROUP	ENDANGERED		THREATENED		TOTAL LISTINGS	U.S. SPECIES W/ PLANS
	U.S.	FOREIGN	U.S.	FOREIGN		
 MAMMALS	68	251	10	20	349	55
 BIRDS	77	175	13	6	271	78
 REPTILES	14	64	22	16	116	33
 AMPHIBIANS	11	8	10	1	30	15
 FISHES	71	11	43	1	126	95
 SNAILS	21	1	11	0	33	22
 CLAMS	62	2	8	0	72	69
 CRUSTACEANS	18	0	3	0	21	13
 INSECTS	35	4	9	0	48	31
 ARACHNIDS	12	0	0	0	12	5
ANIMAL SUBTOTAL	389	516	129	44	1,078	416
 FLOWERING PLANTS	571	1	144	0	716	584
 CONIFERS	2	0	1	2	5	3
 FERNS AND OTHERS	26	0	2	0	28	28
PLANT SUBTOTAL	599	1	147	2	749	615
GRAND TOTAL	988	517	276	46	1,827*	1,031

TOTAL U.S. ENDANGERED: 988 (389 animals, 599 plants)

TOTAL U.S. THREATENED: 276 (129 animals, 147 plants)

TOTAL U.S. LISTED: 1,264 (518 animals**, 746 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*

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