Endangered Species List Revisions: A Summary of Delisting and Downlisting

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Summary

The question of whether the Endangered Species Act (ESA) "works" is an important part of the debate before Congress concerning both its annual appropriations and reauthorization of the Act itself. Information on the species that have been delisted or downlisted from the Lists of Endangered and Threatened Wildlife and Plants is often cited when judging the ESA's success or failure. This report outlines the process and reasons for delisting or downlisting, and summarizes the 27 species delisted due to extinction, recovery, or data revision, and the 22 species that have been downlisted from endangered to threatened status due to stabilized or improving populations.

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Introduction

Central to the debate before Congress over appropriations for or reauthorization of the Endangered Species Act (ESA) is the question of whether the Act actually works. Different standards have been used to judge the ESA a failure and a success. Opponents of the Act contend that the ESA has failed while costing taxpayers billions of dollars, citing the low number of "recovered" species removed from the list. Proponents assert that the ESA has succeeded in preserving endangered and threatened species and their habitats, citing the significant number of listed species with stable or increasing populations, or the low number of extinctions of listed species.

Further controversy arises from uncertainty over the definitions of the terms "recovered" and "extinct." Should species that may have been already extinct when listed under the ESA be used to judge the Act's effectiveness? If a species has declined to a point that its very existence is in question, should a later determination that it is in fact extinct be attributed as a failure of the Act? Should species removed from the list because of the discovery of additional populations be classified as "recovered?" Should species downlisted from endangered to threatened due to stable or increasing populations count as "recovered?" Understanding the process and reasons for removing particular species from the endangered species list, or for reclassifying them from endangered to threatened, will help to answer these questions and to inform the debate.

Choosing Criteria to Evaluate the ESA

To determine whether the ESA has been effective, one must first choose a standard of measure. The primary goal of the ESA is the recovery of species to levels where protection under the Act is no longer necessary. If this is the standard of measure, the Act could be considered a failure. As of July 31, 1997, only 11 species have been delisted due to recovery. Of the remaining species that have been removed from the endangered and threatened lists, seven have gone extinct, and nine species have been delisted due to new or improved data.

Some scientific studies have shown that most species are listed only after they are very depleted (*e.g.*, median population of 999 animals for listed vertebrates, 1075 invertebrates, and 119.5 plants)[2], and recovery, in the short term, may be unrealistic.

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[2]Wilcove, David S., Margaret McMillan, and Keith C. Winston. What Exactly is an (continued...)

Therefore, another standard of measure might be the number of species whose populations have stabilized or increased, even if the species is not actually delisted. Using this standard, the Act could be considered a moderate success, since a large number of the 1,676 listed species (41% according to one study) have improved or stabilized. Twenty-two species originally listed as endangered have been downlisted to threatened status, with two of these eventually being delisted altogether.

Another standard of measure for the ESA could be the number of species that have not gone extinct. While extinction can be considered a normal evolutionary process, widely diverse methods suggest that current rates of extinction exceed baseline rates by 100 - 10,000 times. With only 7 of the 1,676 listed species having gone extinct, (although 5 of these were later determined to have been extinct at the time of listing), this standard could be used to classify the ESA as a success. Species like the California condor and the red wolf might not exist today without ESA protection. On the other hand, less charismatic species at risk may have gone extinct without notice.

In sum, these three different standards would count the ESA as a failure, a modest success, or a success. Any participant in the ESA debate could therefore find support for his or her interests by choosing an appropriate standard of measure.

Creation of Endangered Species Lists

Congress first authorized the creation of a federal list of endangered species in the Endangered Species Preservation Act (ESPA) of 1966. As part of early efforts to halt or reverse the decline of wildlife species, this Act, in part, directed the Secretary of the Interior to publish the names of all species found to be "threatened with extinction" in the *Federal Register* (*FR*). The focus of this legislation was the protection of habitat, primarily through federal acquisition. It did not restrict taking or trade in interstate commerce of listed wildlife species.[3]

The Endangered Species Conservation Act (ESCA) of 1969 provided additional protections for declining species. A major innovation was the authorization to create a list of wildlife "threatened with worldwide extinction," and to strictly limit the importation of these species into the United States.[4] The ESCA also directed the Secretary of the Interior and the Secretary of State to seek "a binding international convention on the conservation of endangered species."

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the result of that congressional call, was signed by 21 nations in 1973 and took effect in 1975. One of its major contributions to endangered species

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[2](...continued)
Endangered Species? Analysis of the U.S. Endangered Species List: 1985-1991. Conservation Biology 7(1): 87-93. 1993.

[3]Bean, Michael J. *The Evolution of National Wildlife Law.* New York, NY: Praeger Publishers, 1983. p. 319-321.

[4]*Ibid*., p. 321.

protection was the recognition of different levels of endangerment.[5] CITES listed species on one of three appendices: Appendix I listing the species most vulnerable to extinction; Appendix II listing species less vulnerable, or those species whose trade must be controlled to prevent endangerment; and Appendix III containing species that could be listed unilaterally by countries wishing to prevent over-exploitation of populations within their own boundaries.[6] This agreement was significant both in substantively regulating international trade, and in providing a framework for domestic legislation.

Congress passed the Endangered Species Act in 1973, replacing both the ESPA and the ESCA. In addition to further restrictions on "taking"[7] and interstate commerce, the ESA authorized the listing of "endangered"[8] and "threatened"[9] wildlife and plants. Those species previously listed under the ESPA and the ESCA were directly incorporated into the Lists of Endangered and Threatened Wildlife and Plants under the ESA, found at 50 CFR §17.11(h) and §17.12(h).

Process for Delisting or Downlisting a Species

The processes for delisting or downlisting a species from the Lists of Endangered and Threatened Wildlife and Plants are the same as the processes for listing (see Appendix). The Secretary of the Interior may initiate a change in the status of listed species. Alternatively, after receiving a substantive petition for any change in listing status, the Secretary shall conduct a review of the species' status. The determination to delist, downlist, or uplist a species must be made "solely on the basis of the best scientific and commercial data available" (ESA, §4(b)(1)(A), "without reference to possible economic or other impacts." (50 CFR §424.11(b)) Fish and Wildlife Service (FWS) regulations also state that, at least once every five years, the Director shall conduct a review of each listed species to determine whether it should be removed from the list (delisted), changed from endangered to threatened (downlisted), or changed from threatened to endangered (uplisted) (50 CFR §424.21).

A species may be removed from the list only if the data substantiate that it is no longer threatened or endangered for one or more of the following reasons.

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[5] *Ibid*., p. 325.

[6] While the ESA is the domestic legislation implementing many of the provisions of CITES, there is no necessary connection between species' listing on the Appendices of CITES and listing under the ESA.

[7] Section 3(18) of the ESA defines the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

[8] Section 3(6) of the ESA defines the term "endangered species" to mean "any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man."

[9] Section 3(19) of the ESA defines the term "threatened species" to mean "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

- First, the Secretary may declare a species to be **extinct** if, after a sufficient period of time, no individuals of a listed species can be found throughout its historical range, or all individuals of captive populations have died.

- Second, the Secretary may determine that a species is **recovered** if the best available scientific and commercial data indicate that it is no longer threatened or endangered, and no longer requires the protections of the ESA.

- Third, the **original data**, or the interpretation of such data, used to list a species as endangered or threatened may have been **in error**. This reason could include discovery of previously unknown populations or habitat, or taxonomic revision of the listed species.

After a species has been removed from the endangered or threatened list due to recovery or an error in the original data, the FWS will continue to monitor its status to insure that proper action has been taken. Emergency re-listing may occur if these monitoring efforts show that the species is again endangered or likely to become endangered (50 CFR §424.20).

Extinct Species

Of the 1,676 species on the Lists of Endangered and Threatened Wildlife and Plants (as of November 30, 1997), seven have been delisted due to extinction. Four of these species -- the Tecopa pupfish, longjaw cisco, blue pike, and Santa Barbara song sparrow -- were protected under laws pre-dating the ESA, and therefore were automatically listed under the ESA when it passed in 1973. They were apparently already extinct by 1973, however.

Tecopa pupfish. The Tecopa pupfish (*Cyprinodon nevadensis*) was first described in 1948 from the outflow streams of the north and south Tecopa Hot Springs, north of Tecopa, California. In 1970, the declining Tecopa pupfish population was listed on both the federal and California endangered species lists due to habitat alteration and introductions of exotic species, primarily bluegill sunfish and mosquito fish. By 1972, the species no longer occurred where the species was first found. Surveys done in 1977 failed to locate any other populations. In 1982, the FWS determined the Tecopa pupfish was extinct and removed it from the endangered species list (47 *FR* 2317).

Longjaw cisco. The longjaw cisco (*Coregonus alpenae*) was one of several species of deepwater whitefish that was an important part of the smoked fish industry in the Great Lakes. It was known to occur in Lakes Michigan, Huron, and Erie. Extensive over-fishing and increased lake pollution led to a population crash in the first half of the 20th Century. The cisco was further decimated by sea lamprey predation and habitat degradation, and has not been seen in Lakes Huron and Erie since the 1950's. The last collection in Lake Michigan was in 1967, at which time the species was listed as endangered under the ESPA. In 1983, the FWS declared the longjaw cisco extinct and took it off the endangered species list (48 *FR* 39942).

Blue pike. The blue pike (*Stizostedion vitreum glaucum*) was abundant in the commercial fishery of the Great Lakes. It was historically found in Lakes Erie and Ontario, and in the Niagara River. In 1915, population levels began a cycle of extreme fluctuation caused by over-fishing, leading to the eventual collapse in 1958. The FWS listed the pike as endangered under the ESCA in 1970, suggesting that introgressive hybridization with walleye may have caused the final disappearance of the stock. A survey by the Blue Pike Recovery Team in 1977 found no individuals. In 1983, the FWS declared the blue pike extinct and removed it from the endangered species list (48 *FR* 39942).

Santa Barbara song sparrow. The Santa Barbara song sparrow (*Melospiza melodia graminea*) is a subspecies of the song sparrow that was known to exist only on Santa Barbara Island, Los Angeles County, California. No Santa Barbara song sparrows have been seen since a fire in 1959 destroyed most of the 640-acre island's habitat. In 1983, the FWS determined that *M. m. graminea* was extinct and removed it from the endangered species list (48 *FR* 46336).

Sampson's pearly mussel. Sampson's pearly mussel (*Epioblasma* (=*Dysnomia*) *sampsoni*) is a freshwater bivalve mollusk that was historically found in parts of the Wabash River in Illinois and Indiana, and parts of the Ohio River near Cincinnati. Dam construction and siltation eliminated much of the gravel and sandbar habitat where the species was found. The FWS listed this mussel as endangered under the ESA in 1976 (41 *FR* 24064). A status review initiated in 1981 determined that "no specimens had been collected in over 50 years, despite repeated sampling within its range." In 1984, the FWS concluded that Sampson's pearly mussel was extinct and removed it from the endangered species list (49 *FR* 1057).

Amistad gambusia. The Amistad gambusia (*Gambusia amistadensis*) was a small fish known only to occur in Goodenough Spring, Val Verde County, Texas, a tributary of the Rio Grande River. This species was eliminated in the wild when construction of the Amistad Reservoir in 1968 submerged Goodenough Spring under approximately 70 feet of water. The FWS listed the Amistad gambusia as endangered in 1980, at which time it occurred only in captivity (45 *FR* 28721). The two captive populations, held by the University of Texas and the Dexter National Fish Hatchery in New Mexico, died or were eliminated through hybridization and predation. The FWS ruled the Amistad gambusia extinct in 1987, and removed it from the endangered species list (52 *FR* 46083).

Dusky seaside sparrow. The dusky seaside sparrow subspecies (*Ammodramus maritimus nigrescens*) was a small songbird that existed only on Merritt Island and the upper St. Johns River marshes of Brevard County, Florida. Populations of the sparrow declined as its salt marsh habitat was converted to freshwater mosquito-control impoundments, or drained. The use of DDT to control mosquitos was also suspected as a contributing factor in the species' decline.

Dusky seaside sparrows were first listed as endangered in 1967 under the ESPA (32 *FR* 4001). The last remaining wild birds, all males, were taken into captivity in 1979 and 1980 to begin a captive breeding program. The males were mated with females of a closely related subspecies (Scott's seaside sparrow, *A. m. peninsulae*) to try to preserve their genetic information. The hybrid offspring were not protected

under the ESA and the breeding program proved unsuccessful. The last male sparrow died on June 16, 1987, and the hybrid offspring died by the summer of 1989. In 1990, the FWS declared the dusky seaside sparrow extinct and took it off the endangered species list (55 *FR* 51112).

Recovered Species

The goal of the ESA is the recovery of a listed species to population levels where protection under the Act is no longer necessary. A species may be classified as recovered if its decline has been halted or reversed, and threats minimized, so that its survival in the wild is likely. According to FWS, there are currently 11 species that have been delisted due to recovery. (See note on Rydberg milk-vetch.)

Brown pelican. The brown pelican (*Pelecanus occidentalis*) is a large coastal bird with a wingspan of nearly seven feet; it feeds almost exclusively on fishes captured by plunge diving. In the early 1960's, pelican populations suffered dramatic reductions as a result of organochlorine pesticide pollution. The pesticide endrin was thought to kill many pelicans through direct toxic effects, while the pesticide DDT led to eggshell thinning and reproductive failure. The brown pelican was listed under the ESCA as an endangered species throughout its U.S. and foreign ranges in 1970 (35 *FR* 16047 and 35 *FR* 8495). In 1973, the Environmental Protection Agency (EPA) banned the use of DDT in the United States (37 *FR* 13369) and began to sharply curtail the use of endrin. Since that time, pelican populations in the eastern Gulf and Atlantic coastal regions have reached or exceeded their historical breeding levels.

In 1985, the FWS removed the brown pelican from the endangered species list in Alabama, Florida, Georgia, South Carolina, North Carolina, and points northward along the Atlantic coast (50 *FR* 4938). The brown pelican remains endangered throughout the remainder of its range, which includes Mississippi, Louisiana, Texas, California, Mexico, Central and South America, and the West Indies.

Palau fantail flycatcher, Palau ground-dove, and Palau owl. The Palau Islands are located east of the Philippines in the South Pacific. They were formerly a U.S.-administered United Nations Trust Territory, and since 1994, have had an independent constitutional government. World War II fighting caused heavy damage to many of the islands, and as a result many populations of native species dramatically declined. The Palau fantail flycatcher (*Rhipidura lepida*), Palau ground-dove (*Gallicolumba canifrons*), and Palau owl (*Pyrroglaux podargina*) are three native bird species that were virtually eliminated during the war. These species were listed as endangered under the ESCA in 1970 (35 *FR* 8495) based on data from military surveys done shortly after the U.S. invasion of Angaur and Peleliu in 1944.

Since the end of World War II, the fantail flycatcher, ground-dove, and owl have returned to near original abundances and are not faced with any foreseeable threats. None of the species are sought as a game species, and the new constitution of Palau bans the personal possession of firearms, making it illegal to hunt with any type of gun. Based on this evidence, the FWS removed the Palau fantail flycatcher, the Palau ground-dove, and the Palau owl from the endangered species list in 1985 (50 *FR* 37192).

American alligator. The American alligator (*Alligator mississippiensis*) is a large aquatic reptile that inhabits wetland areas of the southeast Atlantic and Gulf states. It is one of only two species (Chinese alligator and American alligator) of the genus *Alligator*. Overharvesting due to commercial demand for alligator products led to significant population declines during the 1950's and 1960's. In 1967, the FWS listed the alligator as an endangered species under the ESPA. The Lacey Act Amendments of 1969 prohibited interstate commerce in illegally taken reptiles and their parts and products. The heavy penalties added under the ESA of 1973, and the listing in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) provided further protection against illegal taking. Populations have recovered and are now stable but disjunct, and limited to areas of remaining suitable habitat within their former range.

In 1977, the FWS downlisted the alligator from endangered to threatened in part of its range, including Florida and certain coastal areas of Georgia, South Carolina, Louisiana, and Texas (42 *FR* 2071). In 1987, the FWS downlisted the American alligator throughout the remainder of its range to "threatened due to similarity of appearance" (52 *FR* 21059). This classification reflects a complete recovery of the alligator, but is intended to facilitate necessary protections for the American crocodile (*Crocodylus acutus*) in the United States and foreign countries, and other endangered crocodilians in foreign countries, whose products are difficult to distinguish from those of the American alligator. Any proposed harvests under this classification must comply with the FWS's special rule on American alligators (50 CFR §17.42(a)) and existing state statutes and regulations.

Rydberg milk-vetch. The Rydberg milk-vetch (*Astragalus perianus*) is a small, flowering plant that occurs in the mountain and plateau region of south central Utah. The FWS listed the milk-vetch as threatened in 1978 based on data showing that the plant was known to occur only in two locations: Bullion Canyon, Piute County, Utah, and Mt. Dutton, Garfield County, Utah (43 *FR* 17914). Beginning in 1983, the U.S. Forest Service conducted extensive surveys as part of a management plan developed for the Rydberg milk-vetch. The surveys resulted in the discovery of 11 additional populations with estimates of over 300,000 plants. Based on this new information, the FWS delisted the Rydberg milk-vetch in September 1989 (54 *FR* 37941).

The FWS has categorized this delisting as a "recovery" in its published list of species removed from the endangered and threatened lists. It should be noted, however, that the information published in the final rule delisting the Rydberg milk-vetch could also be interpreted as an error in the original data.

Gray whale. Gray whales (*Eschrichtius robustus*) are large marine mammals that can reach lengths of 50 feet. They are bottom feeders whose main diet consists of small crustaceans called amphipods. The eastern North Pacific (California) population spends the summer feeding in the Bering, Chukchi, and Beaufort Seas. After migrating along the western shore of North America, gray whales spend the winter off of the coast of Baja California, where the young are born in shallow lagoons.

Commercial whaling significantly reduced gray whale populations, with estimates of 4,000 - 5,000 whales remaining by the mid 1800's. In 1947, the International Convention on the Regulation of Whaling banned the commercial harvesting of gray whales, although subsistence harvesting by aboriginal groups was allowed to continue. Since the ban, the eastern population has recovered to nearly the estimated original level, and is now neither in danger of extinction, nor "likely to become endangered within the foreseeable future throughout all or a significant portion of its range." The FWS concurred with the National Marine Fisheries Service's determination, and delisted the eastern North Pacific (California) population of the gray whale in 1994 (59 *FR* 31094). The western North Pacific (Korea) population remains listed as endangered. Gray whales continue to receive protection under the Marine Mammal Protection Act of 1972 (16 U.S.C. §1361).

Arctic peregrine falcon. The peregrine falcon is a medium-sized brown or blue-gray raptor that preys primarily on birds. Three subspecies of peregrines occur in North America — arctic peregrine falcon (*Falco peregrinus tundrius*); American peregrine falcon (*F. p. anatum*); and Peale's peregrine falcon (*F. p. pealei*). Arctic peregrines nest in the tundra regions of Alaska, Canada, and Greenland. They are highly migratory, wintering mostly in Latin America.

Arctic peregrine falcon populations declined in the 1950's and 1960's as a result of contamination with organochlorine pesticides such as DDT. These pesticides can accumulate to lethal levels in the fatty tissues of animals eating contaminated prey. At lower concentrations the principal metabolite of DDT can disrupt eggshell formation, causing eggs break easily.

Arctic peregrines were protected in 1970 under the ESCA, and subsequently covered in 1973 under the ESA. Populations began to recover when Canada restricted the use of DDT in 1970, followed by an EPA ban on DDT in the United States in 1973 (37 *FR* 13369). The United States restricted the use of other organochlorine pesticides, including aldrin and dieldrin, in 1974. The FWS downlisted the arctic peregrine falcon from endangered to threatened in March 1984 (49 *FR* 10520), and removed it from the list of threatened species in October 1994 (59 *FR* 50796). Arctic peregrines are still protected under the similarity of appearance provision of the ESA listing all *Falco peregrinus* found in the wild in the contiguous 48 states as endangered. Arctic peregrines also continue to be protected under the Migratory Bird Treaty Act (16 U.S.C.§703-712).

Red kangaroo, western gray kangaroo, eastern gray kangaroo. Kangaroos are large marsupial mammals indigenous to Australia. Marsupial populations in Australia began to decline with European settlement and the expansion of sheep ranching. A dramatic drop in kangaroo populations resulted from the development of a commercial market in kangaroo hides and meat. Citing evidence of excessive commercial utilization, the FWS listed the red kangaroo (*Macropus rufus*), eastern gray kangaroo (*Macropus giganteus*), and western gray kangaroo (*Macropus fuliginosus*) as threatened species in December 1974, and banned the commercial importation of kangaroos, their parts, and products (39 *FR* 44990). The FWS also asserted that Australia's regulatory control of hunting and trade were inadequate.

In April 1981, the FWS lifted the importation ban on the three threatened kangaroos after accepting the management programs of four Australian states. The FWS determining that managed "taking" would not be detrimental to the survival of the species, and removed the red kangaroo, eastern gray kangaroo, and western gray kangaroo from the list of threatened wildlife in 1995 (60 *FR* 12888). A subspecies of eastern gray kangaroo (*M. g. tasmaniensis*) which occurs solely in Tasmania, retains its endangered classification under the ESA.

Original Data for Classification in Error

Information collected after a species has been listed as endangered or threatened may show that the data used for listing, or the interpretation of such data, were incomplete, erroneous, or affected by later amendment of the ESA. The FWS determined that it listed eight species based on data that were incomplete or in error. (See note on Rydberg milk-vetch.) These delistings were the result of: (1) better data, including foreign scientific and commercial information; (2) scientific or taxonomic revision; and (3) discovery of previously unknown populations or habitats. (See [http://www.fws.gov/~r9endspp/delisted.pdf] for more information.) The FWS listed one species based on data that, as a result of subsequent amendment to the ESA, were determined to no longer be valid criteria for listing.

Mexican duck. The Mexican duck (once classified as *Anas diazi*) was historically found in Arizona, New Mexico, Texas, and throughout northern Mexico. This species was listed as endangered in 1967 under the ESPA based on evidence of habitat loss and declining populations due to hybridization with the common mallard duck (*A. platyrhynchos*). The Mexican duck was later determined to be a subspecies of *A. platyrhynchos*, and according to the FWS, "the interbreeding of two subspecies of the same species is an expected natural phenomenon. Protection under the definition of 'species' in the Act for one phenotype [an organism's general appearance] in a geographic segment or population of the same species is not permissible." (43 *FR* 32258) In short, the Mexican duck no longer qualified as sufficiently distinct under the ESA's definition of a species to warrant protection. Moreover, the loss of natural habitat was determined to no longer be a threat, because the species was found to be able to live in newly created agricultural areas. In 1978, the FWS removed the Mexican duck from the endangered species list (43 *FR* 32258).

Pine Barrens treefrog. The Pine Barrens treefrog (*Hyla andersonii*) is a small amphibian that occurs in New Jersey, the Carolinas, and Florida. In 1977, the Florida population only was listed as endangered under the ESA based on "the present or threatened destruction, modification, or curtailment of its habitat or range." Surveys at that time showed that there were only seven small breeding sites in Okaloosa County, with less than 500 estimated individuals. Surveys started in 1978 by the Florida Game and Fresh Water Fish Commission found more than 150 additional sites in Okaloosa, Walton, Santa Rosa, and Holmes Counties in Florida, and six sites in Escambia and Covington Counties, Alabama. Based on this new evidence, the FWS delisted the Pine Barrens treefrog in 1983 (48 *FR* 52740).

Indian flap-shelled turtle. The Indian flap-shelled turtle (*Lissemys punctata punctata*) is a softshell turtle occurring in southern and central India and Sri Lanka. A closely related turtle, *L. p. andersoni*, occurs in northern India, Pakistan, Nepal,

Bangladesh, and Burma. The flap-shelled turtle was placed on Appendix I of CITES in 1975 at the request of Bangladesh. However, *L. p. punctata* was the taxa listed, not *L. p. andersoni*. Under a broad rule placing 159 taxa from Appendix I of CITES on the ESA's List of Endangered and Threatened Wildlife, the FWS listed *L. p. punctata* as endangered in 1976 (41 *FR* 24062). Although *L. p. punctata* was the subspecies listed by the FWS, its stated range included regions from which *L. p. andersoni*, not *L. p. punctata*, is known to occur. It is unclear which subspecies -- *L. p. punctata* or *L. p. andersoni*, or both -- was meant to be included in the CITES and ESA listings.

Subsequent reviews of the literature and available data could find no evidence to support this endangered status. To the contrary, scientists now classify *L. p. punctata* and *L. p. andersoni* as only one subspecies. This subspecies is the most common aquatic turtle in India. Consequently, the FWS removed the Indian flap-shelled turtle from the endangered species list in 1983 (48 *FR* 52740). This action did not affect the turtle's status on Appendix I of CITES.

Bahama swallowtail butterfly. The Bahama swallowtail butterfly (*Heraclides* (*Papilio*) *andraemon bonhotei*) is a tropical insect whose occurrence in Florida represents the northern limit of its distribution. This dark brown and yellow butterfly is restricted to tropical upland hardwood habitat, now found in the United States primarily in the Florida Keys. It was listed as threatened under the ESA in 1976 (41 *FR* 17736), at which time it was found only in Dade and Monroe Counties, Florida. The Bahama swallowtail was later found to be only a sporadic resident of the United States, and not distinct from the Bahamian population of the same subspecies. Moreover, the 1978 Amendments to the ESA limited protection at the population level to vertebrates (ESA, §3(15)). As a result of ESA amendment, the FWS took the Bahama swallowtail butterfly off the endangered species list in 1984 (49 *FR* 34501), since it was neither a vertebrate nor a distinct population.

Purple-spined hedgehog cactus. The purple-spined hedgehog cactus (*Echinocereus engelmannii* var. *purpureus*) was first described as a distinct taxonomic group in 1969 from specimens collected near St. George, Utah. It was determined to be very rare and was listed as endangered under the ESA in 1979 (44 *FR* 58866). Subsequent investigations found that the purple-spined hedgehog cactus is simply a dark-colored, short-spined phase that occurs interspersed throughout populations of *E. e. chrysocentrus*; the two types of plants cross-pollinate readily in nature. Since *E. e. chrysocentrus* is common and widely distributed in the Mojave Desert of Arizona, California, Nevada, and Utah, in 1989, the FWS delisted the purple-spined hedgehog cactus (54 *FR* 48749).

Tumamoc globeberry. The Tumamoc globeberry (*Tumamoca macdougalii*) is a perennial vine in the gourd family with small greenish-yellow flowers and bright red fruits. It occurs from south central Arizona south through southern Sonora, Mexico. The FWS listed the globeberry as endangered under the ESA in 1986 based on the known presence of only 30 isolated populations in Pima County, Arizona, and five populations in Sonora, Mexico (51 *FR* 15906). In 1988 and 1989, the Bureau of Reclamation conducted surveys required by § 7 of the ESA to determine the impact of a Central Arizona Project canal and pipeline on the globeberry. These surveys determined that the species occurred across a more extensive range and was less

habitat-specific than previously thought. Finding few threats of extinction in its newly identified habitat, the FWS removed the Tumamoc globeberry from the endangered species list in 1993 (58 *FR* 33562).

Spineless hedgehog cactus. Botanist Karl Schuman first described the spineless hedgehog cactus (*Echinocereus triglochidiatus* var. *inermis*) in 1896 from specimens collected in southeast Utah and southwest Colorado. The FWS listed this subspecies as endangered in 1979 under the ESA based on its rare occurrence (44 *FR* 64744). The recovery plan for the spineless hedgehog cactus noted a question of its true taxonomic status, and later studies determined that it is simply a spineless form of the red-flowered hedgehog cactus (*E. t.* var. *melanacanthus*) that is widely distributed from northern Colorado and Utah to Durango and San Luis Potosi, Mexico. Finding that the spineless hedgehog cactus is "not a discrete and valid taxonomic entity and does not meet the definition of a species (which includes subspecies)," the FWS removed it from the endangered species list in 1993 (58 *FR* 49242).

McKittrick pennyroyal. The McKittrick pennyroyal (*Hedeoma apiculatum*) is a perennial herb, four to six inches tall, with dense leaves and showy pink flowers. The species is endemic to the Guadalupe Mountains in northwest Texas and southeast New Mexico, where it occurs above 5,400 feet in limestone outcrops. The FWS described this pennyroyal as having "limited distribution, low numbers, and low reproductive potential" when it listed it as threatened under the ESA in 1982 (47 *FR* 30440). Subsequent surveys found this herb to be more widespread and abundant, and less vulnerable to human disturbance than previously thought. In 1993, the FWS took the McKittrick pennyroyal off the threatened species list (58 *FR* 49245).

Cuneate bidens. The cuneate bidens (*Bidens cuneata*) is an herb of the thistle family with yellow flowers. It was first described in 1920 from specimens collected on the Hawaiian island of Oahu. The plant was listed as endangered in 1984 based on surveys indicating its rare occurrence (49 *FR* 6099). A recent revision of the Hawaiian members of the *Bidens* genus determined that *B. cuneata* is an outlying population of *B. molokaiensis* that is common along the windward cliffs of nearby Molokai island. These new data indicated that cuneate bidens is "not a discrete taxonomic entity," resulting in the FWS delisting *B. cuneata* in 1996 (61 *FR* 4372).

Downlisted Species

Species that have stabilized or increased in number may be reclassified from endangered to threatened status. ESA proponents assert that downlisting can be an important part of the recovery process, and a measure of success for the ESA. However, these species are often not counted by opponents as successes for the ESA because they have not met the Act's goal of complete removal from the list. Twenty-two species have been downlisted from endangered to threatened status.

Lahontan cutthroat trout, Paiute cutthroat trout, Arizona trout. The Lahontan cutthroat trout (*Oncorhynchus* (=*Salmo*) *clarki henshawi*), Paiute cutthroat trout (*O. c. seleniris*), and Arizona trout (*Oncorhynchus apache*) are western trout species with limited distributions. *O. c. henshawi* occurs in most streams of the Truckee, Carson, and Walker River drainages in California and Nevada. *O. c. seleniris* occurs in Silver King Creek and its tributaries in Alpine County, California.

O. apache occurs in the headwaters of the Salt and Little Colorado Rivers in east central Arizona.

These species were listed as endangered under the ESCA of 1969 due to "destruction, drastic modification, or severe curtailment of their habitat," and hybridization with introduced trout species, especially the brook and rainbow trout. State and federal recovery programs successfully cultured and reintroduced populations in areas from which they were depleted, and reduced the threat of hybridization by eliminating exotic species. In 1975, the FWS downlisted the Lahontan cutthroat trout, Paiute cutthroat trout, and Arizona trout from endangered to threatened (40 *FR* 29863). A special rule under this downlisting action allows the regulated taking of these species for sport fishing purposes.

American alligator. See section under "Recovered Species."

Gray wolf. The gray wolf (*Canis lupus*) was historically found over most of North America, from central Mexico to the Arctic Ocean. Systematic eradication programs, habitat destruction, and over-hunting of prey populations eliminated wolves from most of the contiguous United States by the 1940's. In 1967, the timber wolf subspecies *Canis lupus lycaon*, was listed as endangered under the ESPA of 1966 (32 *FR* 4001). In 1973, the FWS listed the northern Rocky Mountain subspecies, *C. l. irremotus*, and the Texas subspecies, *C. l. monstrabilis*, as endangered under the ESA (38 *FR* 14678). In 1978, the Secretary clarified the legal and taxonomic confusion that arose from these listings by downlisting the Minnesota population of wolves from endangered to threatened, while all other North American gray wolf populations south of Canada remained listed as endangered, without reference to subspecies (43 *FR* 9607).[10]

Greenback cutthroat trout. The greenback cutthroat trout (*Oncorhynchus* (=*Salmo*) *clarki stomias*) is a fish endemic to the headwaters of the South Platte and Arkansas Rivers in Colorado. Habitat destruction caused by mining, logging, grazing and irrigation projects, in addition to hybridization with introduced trout, drastically reduced populations of the greenback cutthroat. By 1930, this species was believed to be extinct. Later rediscovery allowed state and federal conservation programs to culture and reintroduce populations in its historical range. These programs also eliminated many of the exotic species responsible for hybridization problems. In 1978, the FWS downlisted the greenback cutthroat trout from endangered to threatened (43 *FR* 16343), recognizing that threats from habitat destruction and hybridization remain. A special rule under this downlisting action allows for the regulated taking of this species for sport fishing purposes.

Red lechwe. The red lechwe (*Kobus leche*) is a species of African antelope whose historical range included parts of Namibia, Botswana, Angola, Zaire, and Zambia. Unregulated commercial and subsistence hunting, combined with habitat destruction, led to population declines through the first half of the 20th Century. The FWS listed the red lechwe as endangered under the ESCA in 1970 (35 *FR* 8495). Control of hunting and listing on Appendix I of CITES resulted in stable or increasing

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[10]For more information, see CRS Report 97-747ENR, *Reintroduction of Wolves*.

populations over much of their range. In 1979, the Conference of the parties to CITES changed the listing of the red lechwe from Appendix I to Appendix II, and in 1980, the FWS downlisted the red lechwe from endangered to threatened (45 *FR* 65132). With the Appendix II listing, § 9(c)(2) of the ESA allows "the importation of legally taken sport-hunted trophies."

Leopard. The leopard (*Panthera pardus*) is widely distributed across Africa, China, Japan, Korea, India, Sri Lanka, and Southeast Asia. An uncontrolled commercial fur trade (*e.g.*, the United States imported more than 17,000 leopard hides from 1968 to 1969) sharply depleted leopard populations. In 1970, the FWS listed the leopard as endangered under the ESCA (35 *FR* 8495), prohibiting the import of live animals, their parts and products. *P. pardus* was also added to Appendix I of CITES, providing for further control of commercial trade in hides. Subsequent surveys determined that leopard populations in some areas were recovering, and in 1982, the FWS downlisted the southern Africa leopard populations from endangered to threatened (47 *FR* 4204). A special rule allows the import of "legally taken sport-hunted leopard trophies." Other populations of leopard remain listed as endangered under the ESA.

Arctic peregrine falcon. See section under "Recovered Species."

Utah prairie dog. The Utah prairie dog (*Cynomys parvidens*) is a burrowing rodent of the squirrel family that occurs only in southern Utah. Early ranchers believed that the prairie dog competed directly with livestock for food. The ranchers actively sought to eliminate them through habitat alteration and poisoning. In 1973, the FWS listed the Utah prairie dog as endangered under the ESA (38 *FR* 14678), pursuant to the ESCA of 1969. The protections provided by the ESA allowed populations to increase, and in 1984, the FWS downlisted the Utah prairie dog from endangered to threatened (49 *FR* 22330). To mitigate conflict between ranchers and expanding prairie dog populations, a special rule was included in the downlisting that allows the "taking" of up to 5,000 prairie dogs per year.

Snail darter. The snail darter (*Percina tanasi*) is a small fish, typically less than 3.5 inches, that occurs in sandbar habitat in six tributaries of the Tennessee River. The FWS listed the snail darter as endangered under the ESA in 1975 (40 *FR* 47506), at which time it was known from only one population at the mouth of the Little Tennessee River. In 1979, federal law exempted the Little Tennessee River Tellico Reservoir Project from the ESA, allowing a dam to be completed that inundated the known population. Before and after dam completion, the FWS introduced the snail darter into other streams in the area with only limited success. Subsequent surveys, however, found populations in six Tennessee River tributaries in Tennessee and Alabama. These discoveries allowed the FWS to downlist the snail darter from endangered to threatened in 1984 (49 *FR* 27501). This historic conflict between an endangered species and development played a major role in the evolution of the ESA.[11]

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[11]For more information about the history of this species, which was the centerpiece of arguably the most famous legal battle in the history of the ESA, see CRS Report 90-242ENR,

(continued...)

Tinian monarch. The Tinian monarch (*Monarcha takatsukasae*) is a small brownish song bird that is endemic to the island of Tinian, north of Guam in the Mariana Archipelago. Deforestation, first for sugarcane production, and later as a result of World War II combat activities, caused a severe depletion of the monarch population. The FWS listed the Tinian monarch as endangered in 1970 under the ESCA (35 *FR* 8495) based on pre- and post-war data. The island has since become revegitated with a shrubby legume (*Leucaena leucocephala*) in which the monarch has thrived. In 1987, the FWS downlisted the Tinian monarch from endangered to threatened (52 *FR* 10890). The Service noted three threats preventing the complete delisting of the species: 1) potential defoliation of *Leucaena* by introduced plant lice; 2) potential introduction of the predatory brown tree snake (*Boiga irregularis*)[12]; and 3) the species' existence is limited to one small island.

Aleutian Canada goose. The Aleutian Canada goose (*Branta canadensis leucopareia*), one of the smallest of 11 subspecies of Canada geese, nests on remote islands off the coast of the Alaska Peninsula and in the Aleutian Archipelago. Most Aleutian geese migrate along the Pacific coast flyway of North America and winter in Oregon and California. Some geese migrate along the western coast of the Pacific and winter in Asia and Japan. Populations of Aleutian geese declined due to arctic fox (*Alopex lagopus*) introductions on their breeding islands, and recreational and subsistence hunting in the Pacific flyway. The FWS added *B. c. leucopareia* to the list of U.S. endangered species under the ESPA in 1967 (32 *FR* 4001), and to the list of foreign endangered species under the ESCA in 1970 (35 *FR* 8495). Fox control programs on breeding islands and hunting closures in important wintering areas are primarily responsible for increasing goose populations. In 1990, the FWS downlisted all populations of the Aleutian Canada goose from endangered to threatened (55 *FR* 51106), noting that the species still faces threats from disease, predation, and, especially on the wintering grounds, storms and habitat loss.

Nile crocodile. The Nile crocodile (*Crocodylus niloticus*) is a large aquatic reptile that was historically found throughout Africa and as far north as Syria. Habitat destruction, unregulated commercial trade in hides, and hunting to eliminate threats to humans, livestock, and fisheries led to significant population declines. The crocodile was first listed as endangered under the ESCA in 1970 (35 *FR* 8495), and on Appendix I of CITES in 1975. As countries began to implement management practices, especially ranching for the controlled harvest of hides, crocodile populations stabilized or increased. Zimbabwe's successful management led to a downlisting of their ranched populations in 1987 (52 *FR* 23148), and a downlisting of their wild populations in 1988 (53 *FR* 38451). In 1993, the FWS downlisted all populations of the Nile crocodile from endangered to threatened (58 *FR* 49870). The species has also been moved from Appendix I to Appendix II of CITES in Botswana, Malawi, Mozambique, and Zambia, allowing for regulated commercial trade in crocodile hides from these countries.

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[11](...continued)
Endangered Species Act: The Listing and Exemption Process, Appendix B.

[12]For more information, see CRS Report 97-507 ENR, *Non-Indigenous Species: Government Response to the Brown Tree Snake and Issues for Congress*.

Louisiana pearlshell. The Louisiana pearlshell (*Margaritifera hembeli*) is a freshwater mussel approximately 4" long that was known to exist only in the Bayou Boeuf drainage, Rapides Parish, Louisiana. Due to its limited distribution and threats from destruction of river habitat, the FWS listed this species as endangered under the ESA in 1988 (53 *FR* 3567). Since the listing, *M. hembeli* has been found in the Red River drainage, Grant Parish, Louisiana. Subsequent surveys done under the recovery plan expanded the known range to eight streams of the Red River drainage and 11 streams of the Bayou Boeuf drainage. While the discovery of additional populations removes the immediate threat of extinction, threats remain from population fragmentation by impoundments, collecting, and sedimentation from gravel mining. For these reasons, the FWS downlisted the Louisiana pearlshell from endangered to threatened in 1993 (58 *FR* 49935).

Siler pincushion cactus. The Siler pincushion cactus (*Pediocactus sileri*) is a 4-5" spherical or cylindrical cactus with 1" spines and yellow flowers. It is found primarily on gypsum soils at altitudes between 2,800 and 5,400 feet in southwest Utah and northwest Arizona. The FWS listed this species as endangered under the ESA in 1979 (44 *FR* 61786) based on evidence that its small populations with limited habitat were threatened by gypsum mining, off-road vehicle use, road construction, collection, livestock, and development of the Warner Valley Power Plant. Under the Siler Pincushion Cactus Recovery Plan, the FWS closed certain areas to off-road vehicles, fenced off areas of high cactus density, and surveyed potential habitat. As a result of these and other measures, the FWS determined that the Siler pincushion cactus was no longer in danger of extinction, and in 1993, downlisted it from endangered to threatened (58 *FR* 68476).

Small whorled pogonia. The small whorled pogonia (*Isotria medeoloides*) is a perennial orchid that inhabits young and maturing stands of mixed-deciduous or mixed-deciduous/coniferous forests. The species was widely distributed from southern Maine and New Hampshire, through the Atlantic seaboard states, to southern Tennessee and northern Georgia. The FWS listed *I. medeoloides* as endangered under the ESA in 1982 (47 *FR* 39827) when they estimated less than 500 individuals remained in 17 populations. Since listing, the FWS has identified three primary population centers: 1) the Appalachian foothills of New England; 2) the Blue Ridge mountains where Tennessee, North and South Carolina, and Georgia share borders; and 3) coastal plain and piedmont counties of Virginia. Management actions at these and other sites have provided adequate protection and allowed populations to stabilize or increase to meet recovery plan objectives. Thus, the FWS downlisted the small whorled pogonia from endangered to threatened in 1994 (59 *FR* 50852).

Virginia round-leaf birch. The Virginia round-leaf birch (*Betula uber*) is a species from southwestern Virginia with smooth, dark-brown or black bark that can reach heights of 45 feet. Botanists assumed this species to be extinct when no specimens could be found from 1950 to 1975. In 1975, 41 trees were found along Cressy Creek, Smyth County, Virginia. Due to its limited population, the FWS listed *B. uber* as endangered under the ESA in 1978 (43 *FR* 17910). Although this natural population declined from vandalism and transplantation in the late 1970's, a FWS recovery plan established additional populations through propagation management with the help of the U.S. National Arboretum, the Virginia Agricultural Experimental Station, and others. Populations have met recovery plan goals, and in 1994, the FWS

downlisted the Virginia round-leaf birch from endangered to threatened (59 *FR* 59173).

Bald eagle. The bald eagle (*Haliaeetus leucocephalus*) is typically associated with estuaries, large lakes, major rivers, and seacoast habitats. Its historical range included most of North America from central Alaska and Canada to northern Mexico. Beginning in the mid to late 1800's, a decline in eagle populations was attributed to a drop in waterfowl and shorebird prey populations, direct killing, and habitat destruction. The Bald Eagle Protection Act of 1940 (16 U.S.C. 668) prohibited direct killing in most of the eagle's range except Alaska, where the state paid a bounty for killing eagles to protect the salmon fishery. In 1952, the exemption allowing Alaska's bounty was revoked.

Following World War II, the widespread use of the organochlorine pesticide DDT caused significant reproductive failure, leading to another sharp decline in eagle populations. DDE, the primary breakdown product of DDT, caused eggshells to be thin and to break easily. The FWS listed bald eagle populations south of the 40th parallel as endangered under the ESPA in 1967 (32 *FR* 4001). In 1978, the FWS listed all remaining birds in the lower 48 states as endangered under the ESA, with the exception of populations in Michigan, Minnesota, Wisconsin, Oregon, and Washington, where eagles were listed as threatened (43 *FR* 6233). The EPA banned the use of DDT in the United States in 1973 (37 *FR* 13369). Bald eagle recovery plans were developed in each of five established recovery regions. With annual spending exceeding $1 million during the period 1985-1995, eagle populations have increased across most of the United States. FWS data for 1995 estimate 4,712 breeding pairs in the lower 48 states, up from a low of 417 pairs in 1963. In 1995, the FWS downlisted the bald eagle from endangered to threatened in all of the lower 48 states (60 *FR* 36000).

MacFarlane's four-o'clock. MacFarlane's four-o'clock (*Mirabilis macfarlanei*) is a perennial plant with hemispherical clumps 24-47" in diameter, and large, funnel-shaped magenta flowers. The species was described in 1936 from a population found along Snake River, Oregon. From 1947 to the mid 1970's, *M. macfarlanei* was not found and was thought to be extinct. In 1977, two populations were located containing approximately 27 individual plants. The FWS listed the four-o'clock as endangered under the ESA in 1979 based on this limited distribution (44 *FR* 61912). Extensive surveys conducted as part of the species' 1985 recovery plan located over 7,000 plants in three disjunct areas: the Snake River unit, Idaho County, Idaho, and Wallowa County, Oregon; the Salmon River unit, Idaho County, Idaho; and the Imnaha River unit, Wallowa County, Oregon. With reclassification objectives of the recovery plan met, the FWS downlisted MacFarlane's four-o'clock from endangered to threatened in 1996 (61 *FR* 10693), but noted that continued threats from habitat loss warrant continued protection as a threatened species.

Maguire daisy. The Maguire daisy (*Erigeron maguirei*) is a perennial herb with both white and orange flowers that is endemic to sandstone canyons and mesas of San Rafael Swell, Emery County, Utah, and Capitol Reef, Wayne County, Utah. In 1985, the FWS listed *E. m.* var. *maguirei* as an endangered species under the ESA due to its limited distribution (50 *FR* 36090). Later studies determined that populations formerly recognized as *E. m.* var. *maguirei* and *E. m.* var. *harrisonii* "do not merit

recognition as separate varieties." By considering these two former varieties as a single unit of *E. maguirei*, the FWS found there to be more individuals than previously believed. In 1996, the FWS downlisted the Maguire daisy from endangered to threatened (61 *FR* 31054), noting that the small, reproductively isolated populations continue to face threats from mineral development, recreation activities, livestock trampling, and loss of genetic variability.

Australian saltwater crocodile. The saltwater crocodile (*Crocodylus porosus*) is a large aquatic reptile distributed across southwest India, Southeast Asia, the Pacific Islands, and the northern coast of Australia. Due to habitat loss, unregulated hunting, and poaching for a commercial trade in hides, all populations of the saltwater crocodile, except for Papua New Guinea's (where the species was somewhat more healthy), were moved from Appendix II to Appendix I of CITES in 1979. In the same year, the FWS listed all populations outside Papua New Guinea as endangered under the ESA (44 *FR* 75074). In 1985, Australia's saltwater crocodiles were returned from Appendix I to Appendix II of CITES due to their successful management of wild and ranched populations. The Appendix II listing of CITES allows for the export of ranch-produced hides. In 1996, the FWS downlisted the Australian population of saltwater crocodile from endangered to threatened, with a special rule that allows the import of ranched crocodiles and their products (61 *FR* 32356). The FWS has proposed a classification of Papua New Guinea's population of crocodile as threatened due to similarity of appearance (59 *FR* 18652).

Appendix: Regulations for Amending Lists of Endangered and Threatened Wildlife and Plants

50 CFR § 424.11 Factors for listing, delisting, or reclassifying species.

(a) Any species or taxonomic group of species (*e.g.*, genus, subgenus) as defined in § 424.02(k) is eligible for listing under the Act. A taxon of higher rank than species may be listed only if all included species are individually found to be endangered or threatened. In determining whether a particular taxon or population is a species for the purposes of the Act, the Secretary shall rely on standard taxonomic distinctions and the biological expertise of the Department and the scientific community concerning the relevant taxonomic group.

(b) The Secretary shall make any determination required by paragraphs (c) and (d) of this section *solely* on the basis of the best available scientific and commercial information regarding a species' status, without reference to possible economic or other impacts of such determination.

(c) A species shall be listed or reclassified if the Secretary determines, on the basis of the best scientific and commercial data available after conducting a review of the species' status, that the species is endangered or threatened because of any one or a combination of the following factors:

(1) The present or threatened destruction, modification, or curtailment of its habitat or range;

(2) Overutilization for commercial, recreational, scientific, or educational purposes;

(3) Disease or predation;

(4) The inadequacy of existing regulatory mechanisms; or

(5) Other natural or manmade factors affecting its continued existence.

(d) The factors considered in delisting a species are those in paragraph (c) of this section as they relate to the definitions of endangered or threatened species. Such removal must be supported by the best scientific and commercial data available to the Secretary after conducting a review of the status of the species. A species may be delisted only if such data substantiate that it is neither endangered nor threatened for one or more of the following reasons:

(1) *Extinction*. Unless all individuals of the listed species had been previously identified and located, and were later found to be extirpated from their previous range, a sufficient period of time must be allowed before delisting to indicate clearly that the species is extinct.

(2) *Recovery*. The principal goal of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service is to return listed species to a point at which protection under the Act is no longer required. A species may be delisted on the basis of recovery only if the best scientific and commercial data available indicate that it is no longer endangered or threatened.

(3) *Original data for classification in error*. Subsequent investigations may show that the best scientific and commercial data available when the species was listed, or the interpretation of such data, were in error.

(e) The fact that a species of fish, wildlife, or plant is protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (see part 23 of this title 50) or a similar international agreement on such species, or has been identified as requiring protection from unrestricted commerce by any foreign nation, or to be in danger of extinction or likely to become so within the foreseeable future by any State agency or by any agency of a foreign nation that is responsible for the conservation of fish, wildlife, or plants, may constitute evidence that the species is endangered or threatened. The weight given such evidence will vary depending on the international agreement in question, the criteria pursuant to which the species is eligible for protection under such authorities, and the degree of protection afforded the species. The Secretary shall give consideration to any species protected under such an international agreement, or by any State or foreign nation, to determine whether the species is endangered or threatened.

(f) The Secretary shall take into account, in making determinations under paragraph (c) or (d) of this section, those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction, or on the high seas.