The Endangered Species Act: A Primer

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October 9, 2012

Congressional Research Service
7-5700
www.crs.gov
RL31654

CRS Report for Congress
Prepared for Members and Committees of Congress

Summary

The Endangered Species Act (ESA, P.L. 93-205, 87 Stat. 884. 16 U.S.C. §§1531-1544) has a stated purpose of conserving species identified as endangered or threatened with extinction, and conserving ecosystems on which they depend. It is perennially controversial because the protections provided can make it the visible policy focal point for underlying situations involving the allocation of scarce or diminishing lands or resources, especially in instances where societal values may be changing. In response to past controversies, Congress has repeatedly considered minor amendments and major changes to the act. No action has been taken to date in the 112th Congress, but the issue is likely to resurface in the 113th Congress.

The purpose of the report is to describe the major features and controversies of the ESA as background for consideration of possible amendments in the 113th Congress. The major features of ESA and related controversies are briefly summarized as follows:

- ESA retains its authorities even though its authorization for funding expired in 1992, and funds may be and have been appropriated in the absence of a current authorization. ESA prohibitions and penalties remain in effect regardless of appropriations.
- ESA's principal parts are the listing and protection of species, designation of critical habitat and avoidance of its destruction, and consultation by federal agencies regarding actions that may harm listed species. Each of these three principal parts is discussed in detail.
- Dwindling species are listed as either endangered or threatened according to assessments of the risk of their extinction. Once a species is listed, legal tools are available to aid its recovery and to protect its habitat.
- ESA has broad provisions for citizen suits to enforce the act, and lawsuits have played a major role in enforcement and interpretation of many, or perhaps most, of the act's provisions.
- ESA provides for exemptions from the act for agency projects, but the provisions are little used for a variety of reasons.
- The act is administered primarily by the Fish and Wildlife Service, and by the National Marine Fisheries Service for certain marine and anadromous species.
- ESA is the implementing legislation for U.S. participation in the Convention on International Trade in Endangered Species.
- ESA often becomes controversial even where a particular species is not the focus of a controversy but a symptom of it.

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The Endangered Species Act (ESA)[1] frequently receives significant congressional attention. It offers comprehensive protection for species identified as endangered or threatened with extinction. Over the years, the power of this protection has ignited calls for greater bounds on this power, as well as assertions of its lax implementation. The following discussion provides an overview and background on the various features of the ESA that contribute to its legal stature and yet spark an ongoing debate over its implementation.[2]

Overview

What Is the ESA?

The ESA is a comprehensive attempt to provide legal protection to identified species and to consider habitat protection as an integral part of that effort. It is administered primarily by the Fish and Wildlife Service (FWS),[3] but also by the National Marine Fisheries Service (NMFS)[4] for certain marine species. Under the ESA, individual species of plants and animals (both vertebrate and invertebrate) can be listed as either "endangered" or "threatened" according to assessments of the risk of their extinction. Once a species is listed, powerful legal tools are available to aid the recovery of the species and to protect its habitat. As of September 21, 2012, a total of 2,021 species of animals and plants had been listed as either endangered or threatened; 1,403 of these occur in the United States and its territories, and the remainder only in other countries.[5] Of the U.S. species, 1,143 are covered by recovery plans.[6] The ESA was passed in 1973, but was preceded by simpler acts to conserve species in 1966 and 1969. It has been amended on numerous occasions since then: 1976, 1977, 1978, 1979, 1980, 1982, 1988, and 2003. The authorization for funding under the ESA expired on October 1, 1992, although Congress has appropriated funds in each succeeding fiscal year. ESA prohibitions and penalties remain in effect regardless of appropriations.

Why Is the ESA Controversial?

A stated purpose of the ESA is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."[7] While the ESA plays an important role in protecting species, it can also become a surrogate battleground in debates whose primary focus is the allocation of scarce or diminishing lands, waters, or resources. The surrogate role is especially likely because other laws often lack the strict substantive provisions that Congress included in the ESA (see "Major Provisions" sections, below). There can be economic

[1] Act of December 28, 1973, P.L. 93-205, 87 Stat. 884. 16 U.S.C. §§1531-1544.

[2] For information on current legislation, see CRS Report R41608, *The Endangered Species Act (ESA) in the 112th Congress: Conflicting Values and Difficult Choices*, by Eugene H. Buck et al.

[3] For detailed information on the FWS program for endangered species, see the FWS website at http://www.fws.gov/endangered/.

[4] NMFS, a part of the National Oceanic and Atmospheric Administration, is also sometimes referred to as *NOAA Fisheries*.

[5] For updated information, see http://ecos.fws.gov/tess_public/pub/Boxscore.do. U.S. responsibilities toward foreign species are more limited than for domestic species. See "International Applications of the ESA" below.

[6] Ibid.

[7] 16 U.S.C. §1531(b).

interests on multiple sides of some vanishing species issues. Like the miners' canaries signaling a scarce resource (safe air supply), declining species are often symptoms of resource scarcities and altered ecosystems. Examples of such resource controversies include the Tellico Dam (hydropower development and construction jobs versus farmland protection and tribal graves, as well as the endangered snail darter); Northwest timber harvest (protection of logging jobs and communities versus commercial and sport fishing, recreation, and ecosystem protection, as well as salmon and spotted owls); and oil development on the energy-rich plain around the northern mountain states (coal bed methane development, grazing rights, ground water protection, traditional ranching, and a petition for sage grouse listing).[8] And the worldwide debate over the causes and effects of global climate change has found its avatar in the polar bear (carbon dioxide emission levels, shoreline erosion, melting glaciers, traditional jobs, agriculture, etc.).

Tensions over the ESA have increased as species have been added to the protected list, and as the greater demands of a growing economy and human population have affected species' habitats. Both Congress and the Executive Branch have sought to lessen these tensions by, among other things, tailoring application of the ESA for particular circumstances. The ESA's critics contend that neither the ESA nor administrative efforts go far enough in accommodating needs other than species conservation, while the ESA's defenders counter that it only balances what they see as an inherent bias toward development in other governmental laws and policies.

Debate on the ESA splits largely along demographic lines. While most demographic groups support species conservation to some degree, that support is stronger among urban and suburban populations and less so in rural areas, and is stronger among those along the coasts and less so in central and mountain states. Sport hunters and anglers seem divided on the issue. Native Americans, as a group often dependent on natural resources (e.g., fish), are frequently involved in ESA issues, most commonly siding with survival of listed species. Groups opposing strong protections for listed species usually assert that jobs will be lost if conservation measures are stringent, but those seeking strong protections often claim that jobs will be lost if they are not. It is also noteworthy that, while the debate often centers on jobs and biology, people on both sides claim ethical support for their positions, and many religious groups participate in the debate.[9] In addition, some industries (e.g., logging and land development) generally see the ESA as a serious problem, while others (e.g., some commercial fishing and many recreation interests) see it as generally supporting their interests.

Authority, Authorization, and Appropriation

There is a difference between the statutory authority to carry out an action and the authorization of appropriations within a statute. The ESA contains both statutory authority for certain activities *and* a provision authorizing appropriations. Section 15 (16 U.S.C. §1542) is the provision authorizing appropriations—through FY1992. As a result, the following questions are sometimes

[8] After a court held that FWS's decision not to list the greater sage grouse was not based on the best available scientific evidence (*Western Watersheds Project v. FWS*, 525 F.Supp. 2nd 1173 (D. Idaho 2007)), FWS delayed making a final listing decision. On March 3, 2010, FWS announced that the species' listing was warranted, but precluded by higher priority listings (75 *Federal Register* 13910). The interests mentioned here, and many others, had a variety of goals in supporting or opposing the listing proposal. For details, see http://www.r6.fws.gov/species/birds/sagegrouse/.

[9] For example, see the membership list of the Endangered Species Coalition (available at http://www.stopextinction.org/groups.html), which lists a number of religious groups supporting strong species protection.

raised: (a) are the act's various prohibitions and authorities still in effect; (b) what are the House and Senate rules concerning appropriating in the absence of a current authorization; and (c) what would be the effect of a failure to appropriate funds for the agencies (primarily for FWS and NMFS, but also Coast Guard, and Secretaries of Agriculture and Treasury) to carry out their responsibilities under the ESA?

Are ESA Prohibitions and Authorities Still In Effect?

Because the Section 15 (16 U.S.C. §1542) authorizing appropriations expired in FY1992, it is sometimes said that the ESA is not authorized. However, that does not mean that the agencies lack authority to conduct actions (Sections 4, 6-8, 10, and 11; 16 U.S.C. §§1533, 1535-1537,1539 and 1540), or that prohibitions within the act are no longer enforceable (Section 9; 16 U.S.C. §1538). Those statutory provisions continue to be law, even if no money were appropriated.[10]

The expiration of a provision authorizing appropriations does not end the statutory obligations created by that law. The U.S. Supreme Court has long held that "the mere failure of Congress to appropriate funds, without further words modifying or repealing, expressly or by clear implication, the substantive law, does not in and of itself defeat a Government obligation created by statute."[11]

Moreover, Section 11(g) (16 U.S.C. §1540(g)) "allows any citizen to commence a civil suit on his own behalf" on various broad, specified provisions of the act. This option would still be available, regardless of agency funding. Consequently, persons carrying out acts prohibited by ESA might still face citizen suits, even if FWS or NMFS were temporarily unable to carry out their enforcement responsibilities due to lack of funds. The possibility of citizen suits could have the potential to dissuade many parties from carrying out such prohibited acts.

What Are House and Senate Rules for Appropriations?[12]

Both the House and Senate have long-standing internal rules that distinguish between authorizations and appropriations and provide for the separate consideration of legislation containing these types of provisions.[13] This distinction, however, exists for the convenience of Congress and does not affect a measure's statutory force when enacted into law. Either chamber can choose to observe or waive their rules during the course of the legislative process. Clause 2 of House Rule XXI prohibits consideration of measures or amendments that contain unauthorized appropriations. Further, clause 5 of House Rule XXII prohibits consideration of conference reports containing unauthorized appropriations. House rules additionally prohibit appropriations in legislation not reported by the Committee on Appropriations (Rule XXI, clause 4),

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[10] See *Forest Guardians* v. *Babbitt*, 174 F.3d 1178 (10th Cir. 1999) (duty to designate critical habitat for silvery minnow existed despite inadequate funding); *Center for Biological Diversity* v. *Norton*, 304 F. Supp. 2d 1174 (D. Ariz. 2003) (inadequate financial resources did not excuse FWS from obligation to follow court order to redesignate critical habitat); *Conservation Council for Hawai'i* v. *Babbitt*, 24 F. Supp. 2d 1074 (D. Hawaii 1998) (holding that insufficient resources were an inadequate reason for failing to designate critical habitat of 245 listed plants).

[11] *United States* v. *Vulte*, 233 U.S. 509 (1914).

[12] For more information on House and Senate rules for consideration of appropriations in the absence of authorizations, contact Jessica Tollestrup, CRS Analyst on Congress and the Legislative Process, at 7-0941.

[13] For more information on the relationship between authorizations and appropriations, and related House and Senate rules, see CRS Report R42388, *The Congressional Appropriations Process: An Introduction*, by Jessica Tollestrup.

amendments thereto (Rule XXI, clause 4) or conference reports (Rule XXII, clause 5). These rules are enforced via points of order on the floor. The House Rules Committee, however, may report a special rule that sets procedural parameters for the consideration of an appropriations measure. This can include the waiver of rules prohibiting unauthorized appropriations for any specified floor amendments, as well as the measure itself.[14] Special rules can also waive points of order against provisions in a conference report on an appropriations measure. In order for these waivers to occur, the House must adopt a special rule prior to consideration of the measure or conference report.[15]

Senate rules also distinguish between authorizations and appropriations and prohibit unauthorized appropriations in both committee and floor amendments, except in specified circumstances (Rule XVI, paragraphs 2 and 4). This prohibition does not apply to conference reports. This rule is enforced via points of order during consideration, but its application may be waived by unanimous consent.

What Are the Effects of Not Appropriating Funds?

The practical effects of a lapse in funding would be mixed from the standpoint of supporters and critics of existing law.[16] Some of the areas which might be affected during the period of the lapse are listed below. (Specifics of each activity or effect are described in the remainder of the report.)

- No interagency consultations to approve agency actions (e.g., on construction of highways or dams, siting of pipelines on federal lands, or offshore energy drilling; see "Consultation"), nor issuance of incidental take statements to shield agencies from citizen suits;
- No species listed or de-listed, potentially increasing lawsuits when Services fail to meet the listing deadlines in Section 4 (see "Listing" below);
- No critical habitat designated, revised, or removed from designation, potentially increasing lawsuits when Services fail to meet deadlines (see "Critical Habitat");
- No issuance of incidental take permits for nonfederal actions (see "Permits for Nonfederal Actions");
- No or reduced inspections of incoming cargo for CITES species (see "International Applications of the ESA");[17]
- No fulfillment of other obligations under CITES;
- No monitoring of candidate species (see "Candidate Species");

[14] For example H.Res. 578 (111th Cong.), providing for consideration of H.R. 2996 (which became P.L. 111-88, Dept. of the Interior, Environment, and Related Agencies Appropriations Act, 2010), stated "All points of order against consideration of the bill are waived except those arising under clause 9 or 10 of rule XXI."

[15] For further information on the use of special rules for the waiver of House rules, see CRS Report 98-433, *Special Rules and Waivers of House Rules*, by Megan Suzanne Lynch.

[16] Barring occasions when some or all of the federal government has closed for a period of weeks upon the lapse of appropriations bills, a complete lapse in funding for ESA has never occurred.

[17] It is possible that other agencies inspecting cargo (e.g., Drug Enforcement Administration, Animal and Plant Health Inspection Service, Immigration and Customs Enforcement) might still find and report violations discovered in the course of their normal responsibilities.

- No federal enforcement of prohibitions on taking listed species or adverse modification of critical habitat (though citizen suits under the ESA still possible; see "Prohibitions and Penalties");
- No acquisition of habitat for listed species (because money for administering purchases would not be available; see "Land Acquisition");[18]
- No state grants for conservation of listed or candidate species (see "Land Acquisition"); and
- No ability under Section 7 (e)-(p) to exempt agency actions from jeopardy opinions (see "Exemptions").

The last major effort to end funding for the ESA occurred in the 104th Congress. Interest at the time was centered on a desire to eliminate a major source of conflict in projects such as those cited above. However, because of the type of effects just listed, the effort was abandoned, although funding for the listing of new species was temporarily halted.[19]

Has the ESA Been Effective?

The answer to this question depends very much on the choice of measurement. A major goal of the ESA is the recovery of species to the point at which the protection of the ESA is no longer necessary. If this is the standard, the ESA might be considered a failure, because only 28 species have been delisted due to recovery, as of September 21, 2012.[20] Ten species have become extinct since their listing; five have been delisted due to scientific reclassification of the species; and eleven have been delisted due to improved data, changes in the law, or improved scientific understanding.[21] In the case of the species now believed extinct, some were originally listed to protect any last remaining few that *might* have been alive at the time of listing. It can be quite difficult to prove whether extraordinarily rare species are simply that, or in fact are already extinct. For example, two bird species, the ivory-billed woodpecker and the Eskimo curlew, are both listed as endangered, though confirmed sightings are so rare or so far in the past that these birds may actually be extinct; proving a negative (i.e., that such species do not exist any longer) is quite difficult. Rare species are, by definition, hard to find.

Even so, because some scientific studies have demonstrated that most species are listed only once they are very depleted (e.g., median population of 407 animals for vertebrates listed as endangered according to one study[22]), another measure of effectiveness might be the number of

[18] However, FWS land acquisition is often under the authority of various statutes. Where acquisitions occur under the authority of other statutes, the absence of ESA funding might not impede the acquisition.

[19] P.L. 104-6. For a history of ESA funding in the 104th Congress, see Archived Issue Brief IB95003, *Endangered Species: Continuing Controversy*, by M. Lynne Corn.

[20] See http://ecos.fws.gov/tess_public/pub/delistingReport.jsp to obtain updated information. The recovered species include the bald eagle in the lower 48 states and two subspecies of peregrine falcons. It also includes certain populations of gray wolves that were delisted pursuant to congressional action. See CRS Report RL34238, *Gray Wolves Under the Endangered Species Act (ESA): Distinct Population Segments and Experimental Populations*, by Kristina Alexander and M. Lynne Corn.

[21] Ibid.

[22] David S. Wilcove, Margaret McMillan, and Keith C. Winston, "What Exactly is an Endangered Species? An Analysis of the U.S. Endangered Species List: 1985-1991," *Conservation Biology*, vol. 7, no. 1 (March 1993), pp. 87-93.

species that have stabilized or increased their populations, even if the species is not actually delisted. If this is the standard, the ESA could be considered a success, since a large number (41% of listed species according to one study[23]) have improved or stabilized their population levels.[24] One could also ask what species might have become extinct if there were no ESA: some species (e.g., red wolves and California condors) might not exist at all without the ESA protection, and this too might be considered a measure of success, even though the species are still rare. The authors are unaware of comprehensive studies regarding the likely status of rare species were there no ESA, but some species (e.g., some salmon populations, Florida panthers, California condors, and plants of very narrow ranges) might have declined further, from exceptional rarity to extinction, if ESA did not exist.

Leading Causes of Extinction

Until recent decades, the focus of the extinction debate was on losses due to over-exploitation, generally through hunting, trapping, or fishing. The poster species of the debate were passenger pigeons, tigers, wolves, and other well-known animals. But during the 20th century, a shift occurred. The vast majority of species, including those for which actual removal from the wild was probably an early factor in their decline, now are generally also at risk due to habitat loss. Habitats that have been reduced to a small fraction of their former extent include tall-grass prairie, fresh and salt water wetlands, old growth forests of most types, free-flowing rivers, coral reefs, undisturbed sandy beaches, and others.

Another high-ranking factor in the demise of many species is the introduction of nonnative invasive species. Nonnative species can be disease vectors or parasites (e.g., avian malaria in Hawaii, chytrid fungus attacking amphibians in much of the world, or Asian long-horned beetles in North America), predators (e.g., brown tree snakes in Guam and Hawaii), or competitors (e.g., barred owls in the Pacific Northwest or snakeheads in the Potomac River). The gradual homogenization of the world's flora and fauna has led to a demise of many species.[25]

Is Extinction Normal?

If extinction is normal, some argue that there is no need for the government to intervene to halt this natural process. But is it normal? Geological evidence shows that the vast majority of species that have ever lived on Earth are now extinct—an observation uncontested by paleontologists. However, many scientists are concerned that the current rate of extinction exceeds background extinction rates over time.[26] But calculating current rates of extinction, much less making

[23] See p. 2 in Dept. of the Interior, Fish and Wildlife Service, *Report to Congress on the Recovery of Threatened and Endangered Species, Fiscal Years 2005-2006*. Available at http://www.fws.gov/endangered/recovery/reports_to_congress/2005-6/2005-6%20Report.pdf.

[24] See CRS Report 98-32, *Endangered Species List Revisions: A Summary of Delisting and Downlisting*, by Robert J. Noecker.

[25] See CRS Report RL30123, *Invasive Non-Native Species: Background and Issues for Congress*, by M. Lynne Corn et al.

[26] Over the billions of years of life on Earth, extinction rates have varied, with five periods of exceptionally high rates. The most famous periods are the mass extinctions at the end of the Age of Dinosaurs (Cretaceous Period), about 65 million years ago, and the even more massive die-offs at the end of the Permian Period, about 250 million years ago, when about 52% of the groups of marine species became extinct. Between each of the five peak events, extinctions generally continued at more moderate, background levels.

comparisons with the geologic past, is extremely difficult. Current estimates of total numbers of species range from 3.5 million to 100 million, with 10-30 million being commonly accepted numbers. If scientists are unsure of how many species exist, it is naturally difficult to estimate how fast they are going extinct, and whether current extinction rates exceed background extinction rates. Consequently, scientists use very conservative assumptions to make these estimates. The resulting extinction rates (17,000 species per year being a typical estimate) may still seem astonishingly large, in part because the public is generally unaware of the huge number of species in groups to which many people pay little or no attention (e.g., beetles, marine invertebrates, fish), and the large number of species estimated on Earth.

How Do Current Extinction Rates Compare to Background Rates?

Widely diverse methods of calculating extinction rates all suggest that current rates exceed background rates. Normal rates are thought to be from 1 to 10 species per every 10 million species per year. (That is, if there are 20 million species now, background levels would be about 2 to 20 species extinctions per year.) Common estimates of current extinction rates range from 100 to 10,000 times such background rates—roughly comparable to the five great episodes of extinction in the geologic past. Critics most frequently question these calculations by stressing uncertainties, rather than citing specific factual errors. This criticism is not surprising, since each step in these calculations contains uncertainties (e.g., estimating the number of existing species). Most biologists counter by noting that similar numbers are generated in studies of widely different groups by a variety of scientists using different methods; robust results (i.e., similar results from the testing of a hypothesis in a variety of ways) are usually considered scientifically sound.

Once extinct, a species cannot be revived. But, faced with high rates of extinction, some might argue that a return to an equal number of species, even if those species are different, would constitute a recovery of sorts. Evolution continues, so new species may evolve that are better adapted to new conditions. How long would such a replacement/recovery take? Examining the geologic record after major extinction episodes, some scientists estimate that recovery to approximately equal numbers of (different) species took up to 25 million years for the most severe extinction events. Thus, if the current extinction rate and recovery rate are comparable to past rates, the return to species numbers of the pre-historic era would take at least several million years.

Major Provisions

The following are brief summaries of the major domestic provisions of the ESA (in the order they appear in the U.S. Code). Several major issues are discussed in more detail later in this report.

Endangered and Threatened Species Defined

An endangered species is defined as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a

significant portion of its range."[27] The ESA does not rely on a numerical standard: such a standard would not reflect the wide variety of many species' biology. (For example, a population of 10,000 butterflies, all confined to one mountaintop, would be at greater risk than 10,000 butterflies scattered over dozens of mountaintops.) The protection of the ESA extends to all species and subspecies of animals (not just birds and mammals), although for vertebrates, further protection can be given for distinct population segments within a species, and not just the species as a whole. More limited protection is available for plant species under the ESA.[28] There is no protection afforded under the ESA for organisms (e.g., Eubacteria, Archaea, viruses) considered neither animal nor plant.

"Take"

The term "take" under the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[29] (Harassment and harm are further defined by regulation at 50 C.F.R. §17.3.) There has been controversy over the extent to which the prohibition on taking may include habitat modification. A 1995 Supreme Court decision[30] held that the inclusion of significant habitat modification was a reasonable interpretation of the term "harm" in the law.

Fish and Wildlife Service and National Marine Fisheries Service

The Secretary of the Interior manages and administers most listed species through FWS. Marine species, including some marine mammals, and anadromous fish are the responsibility of the Secretary of Commerce, acting through NMFS. The law assigns the major role to the Secretary of the Interior (all references to "Secretary" below are to the Secretary of the Interior unless otherwise stated) and provides in detail for the relationship of the two Secretaries and their respective powers.[31]

Listings

Species may be listed on the initiative of the appropriate Secretary or by petition from an individual, group, or state agency. The Secretary must decide whether to list the species based only on the best available scientific and commercial information, after an extensive series of procedural steps to ensure public participation and the collection of relevant information.[32] At this point, the Secretary may not consider the economic effects that listing may have on the area where the species occurs, although economic considerations are part of the critical habitat

[27] 16 U.S.C. §1532.

[28] 16 U.S.C. §1538(a)(2).

[29] 16 U.S.C. §1532.

[30] Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995) ("Sweet Home"). See CRS Report 95-778, *Habitat Modification and the Endangered Species Act: The Sweet Home Decision*, by Pamela Baldwin.

[31] 16 U.S.C. §1533.

[32] Formally, this determination is made by the Secretary of the Interior, but for species under the jurisdiction of NMFS, the determination to list, de-list, or change the status of a species cannot be made without "prior favorable determination ... by the Secretary of Commerce." (16 U.S.C. §1533(a)(2)(C)).

determination.[33] This section (§4(b)(1)(A)) is the only part of the ESA where economic considerations are expressly forbidden, because Congress directed that listing be fundamentally a scientific question: is the continued existence of the species threatened or endangered? Through the language of the 1982 amendments particularly (stating that *solely* the best scientific data available could be considered during listing), Congress clearly intended to separate this scientific question from subsequent decisions on appropriate protection.[34]

Candidate Species

In the interval between a proposal and a listing decision, the Secretary must monitor the status of a "candidate" species and, if any emergency poses a significant risk to the well-being of the species, promptly list it.[35] Some steps in the normal listing process may be skipped for emergency listings. Federal agencies must confer with the appropriate Secretary on actions likely to jeopardize the continued existence of candidate species, but agencies need not limit commitments of resources.[36] As of September 21, 2012, there were 214 candidate species.[37]

Delisting, Uplisting, and Downlisting

The processes for delisting, uplisting, or downlisting a species from the Lists of Endangered and Threatened Wildlife and Plants are the same as the processes for listing.[38] Delisting is removing a species from the lists. Downlisting is reclassifying a species from endangered to threatened, and uplisting is the reverse. 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 is to review the species' status. The determination to delist, uplist, or downlist a species must be made "solely on the basis of the best scientific and commercial data available"[39] and "without reference to possible economic or other impacts."[40] The statute and regulations also mandate that, at least once every five years, there be a review of each species already listed to determine whether it should be removed from the list, changed from endangered to threatened, or changed from threatened to endangered.[41]

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[33] See CRS Report RL30792, *The Endangered Species Act: Consideration of Economic Factors*, by Pamela Baldwin, for an analysis of when the ESA does allow consideration of such factors.

[34] See 16 U.S.C. §1533(b) and "Bases for Listings" below.

[35] 16 U.S.C. §1533(b)(3)(C)(iii).

[36] 16 U.S.C. §1536(a)(4). The limitation on commitments of resources originated in the debate over Tellico dam. (See Appendix of this report.) As controversy over the dam erupted in Washington, DC, and in Tennessee, the Tennessee Valley Authority speeded work that had already begun on the dam by accelerating construction around the clock for weeks, leaving the project nearly complete before the Endangered Species Committee had met. For a history of the Tellico Dam controversy, see William Bruce Wheeler and Michael J. McDonald, *TVA and the Tellico Dam, 1936-1979* (Knoxville, TN: University of Tennessee Press, 1986), 290 p.

[37] See http://ecos.fws.gov/tess_public/SpeciesReport.do?listingType=C, which is updated daily. In addition, see the annual announcement at Fish and Wildlife Service, "Candidate Notice of Review," 75 *Federal Register* 69222, November 10, 2010. At the time if its issuance, there were 251 candidates.

[38] For more information on this topic, see CRS Report 98-32, *Endangered Species List Revisions: A Summary of Delisting and Downlisting*, by Robert J. Noecker.

[39] 16 U.S.C. §1533(b)(1)(A).

[40] 50 C.F.R. §424.11(b).

[41] 16 U.S.C. §1533(c) and 50 C.F.R. §424.21.

Critical Habitat

Critical habitat, as defined, includes not only geographic areas occupied by the species at the time of listing, but also areas outside that geographic area, if the Secretary determines that such additional areas are essential for the conservation of the species.[42] When a species is listed, the Secretary must also designate critical habitat (either where the species is found, or where there are features essential to its conservation even if the species is not known to be present at the time of designation).[43] If the publication of this information is not "prudent" because it would harm the species (e.g., by encouraging vandals or collectors), the Secretary may choose not to designate critical habitat. The Secretary may also postpone designation for as long as one year if the information is not determinable. As of September 21, 2012, critical habitat had been designated for 619 listed species.[44] Any area, whether or not federally owned, may be designated as critical habitat, but private land is only affected by critical habitat designation if some federal action (e.g., a license, loan, or permit) is also involved. Federal agencies must avoid "destruction or adverse modification" of critical habitat, either through their direct action or activities that they approve or fund.[45]

P.L. 108-136 amended the ESA to add a provision[46] specifying that the Secretary shall not designate critical habitat on lands controlled by the Defense Department, if those lands are subject to an Integrated Natural Resource Management Plan (INRMP) under the Sikes Act (16 U.S.C. §670a).[47] The provision was subject to the Secretary's determination, in writing, that the INRMP provided "a benefit" to the lands which might otherwise have been designated as critical habitat.[48] In addition, the Secretary was directed to take national security into consideration in designating critical habitat. These provisions were added in response to assertions that designated critical habitat on some military lands interfered with military training and readiness activities.

Recovery Plans

The appropriate Secretary must develop recovery plans for the conservation and survival of listed species.[49] Recovery plans to date tend to cover birds and mammals, but a 1988 ESA amendment prohibits the Secretary from favoring particular taxonomic groups. The ESA and its regulations provide little detail on the requirements for recovery plans, nor are these plans binding on federal agencies or others, and the resulting hortatory nature of these plans has been widely criticized.[50] As of September 21, 2012, recovery plans had been completed for 1,143 U.S. species.[51]

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[42] 16 U.S.C. §1532(5)(A)

[43] 16 U.S.C. §§1533(a)(3) and (b)(2).

[44] See http://ecos.fws.gov/tess_public/CriticalHabitat.do?listings=0&nmfs=1 for updated information.

[45] 16 U.S.C. §1536(a)(2).

[46] 16 U.S.C. §1533(a)(3)(B).

[47] For more information on these plans, see CRS Report RS22149, *Exemptions from Environmental Law for the Department of Defense (DOD)*, by David M. Bearden.

[48] The military remains subject to ESA's other provisions, including consultation and taking. For additional information on the military and ESA, see CRS Report RS22149, *Exemptions from Environmental Law for the Department of Defense (DOD)*, by David M. Bearden.

[49] 16 U.S.C. §1533(f).

[50] The nonbinding nature of these plans has been a focus for some time. For example, see Timothy H. Tear et al., "Recovery Plans and the Endangered Species Act: Are Criticisms Supported by Data?" *Conservation Biology*, vol. 9, (continued...)

Land Acquisition

Land may be acquired to conserve (recover) endangered and threatened species. Money from the Land and Water Conservation Fund (LWCF) may be appropriated for this acquisition.[52] LWCF is a federal fund derived primarily from receipts from offshore oil and gas leases, and is used for land acquisition for four agencies charged with managing most federal lands.[53]

Cooperation with States

Under ESA, the appropriate Secretary must cooperate with the states in conserving protected species and must enter into cooperative agreements to assist states in their endangered species programs, if the programs meet certain specified standards.[54] If there is a cooperative agreement, the states may receive federal funds to implement the program, but the states must normally provide a minimum 25% matching amount. The 1988 ESA amendments created a fund to provide for the state grants, including land acquisition and planning assistance. While the authorized size of the fund is determined according to a formula, money from the fund still requires annual appropriation.[55] For FY2012, Congress appropriated $47.7 million for cooperative activities with states and territories.

Consultation

If federal actions or actions of nonfederal parties that require a federal approval, permit, or funding might adversely affect a listed species as determined by the Secretary, the federal action agencies must complete a biological assessment.[56] The assessment is used to determine whether formal consultation is necessary.[57] Through consultation with either FWS or NMFS, federal agencies must ensure that their actions are "not likely to jeopardize the continued existence" of any endangered or threatened species, nor to adversely modify critical habitat.[58] This is referred to as a *Section 7 consultation*. "Action" includes any activity authorized, funded, or carried out by a federal agency, including permits and licenses. However, a 2007 Supreme Court decision held that the consultation process is required only for those federal actions that involve agency discretion.[59] Where a federal action is dictated by statute, a Section 7 consultation is not required.

(...continued)

no. 1 (February 1995), pp. 182-195; for a more general discussion, see Tony A. Sullins, *Endangered Species Act* (Chicago: American Bar Association, 2001), pp. 34-37.

[51] See http://ecos.fws.gov/tess_public/Boxscore.do for updated information.

[52] 16 U.S.C. §1534.

[53] The four agencies are FWS, Bureau of Land Management, and National Park Service, all in DOI, and the Forest Service in the Department of Agriculture. For more on the fund see CRS Report RL33531, *Land and Water Conservation Fund: Overview, Funding History, and Issues*, by Carol Hardy Vincent.

[54] 16 U.S.C. §1535.

[55] 16 U.S.C. §1535(i).

[56] 16 U.S.C. §1536(c).

[57] 50 C.F.R. §402.12(a).

[58] 16 U.S.C. §1536(a).

[59] National Association of Home Builders v. Defenders of Wildlife, 127 S.Ct. 2518 (2007) (holding that no Section 7 consultation was required to transfer permitting power to a state under the Clean Water Act (CWA) because once the CWA statutory factors were met, EPA had no choice but to execute the transfer). See CRS Report RS22618, *The* (continued...)

If the appropriate Secretary finds that an action would neither jeopardize a species nor adversely modify critical habitat, the Secretary issues a Biological Opinion ("BiOp") to that effect, and the agency is provided with a written incidental take statement, specifying the terms and conditions under which the federal action may proceed in order to avoid jeopardy or adverse modification of critical habitat.[60] Alternatively, if the proposed action is judged to jeopardize listed species or adversely modify critical habitat, the Secretary must suggest any reasonable and prudent alternatives that would avoid harm to the species. The great majority of consultations result in "no jeopardy" opinions, and nearly all of the rest find that the project has reasonable and prudent alternatives which will permit it to go forward.

Actions that are deemed likely to result in jeopardy and have no reasonable and prudent alternatives are exceptionally rare. If no reasonable and prudent alternatives to the proposed action can be devised to avoid the jeopardy or adverse modification, the action agency has three choices: (1) choose not to proceed with the action; (2) proceed with the action at the risk of penalties, such as the risk of citizen suits under Section 11(g); or (3) apply for a formal exemption for the action.[61] Pending completion of the consultation process, agencies may not make irretrievable commitments of resources that would foreclose any of these alternatives.

Exemptions

If the jeopardy that is expected to result from a proposed agency action cannot be avoided and the agency proposing the action nonetheless wishes to go ahead with the action, the agency (or the affected governor(s) or license applicant(s)) may apply for an exemption to allow the action to go forward.[62] Exemptions are available only for *actions* (e.g., water withdrawals), not for *species* (e.g., Delta smelt). A high-level Endangered Species Committee (ESC) of six specified federal officials and a representative of each affected state (often called the "God Squad") decides whether to allow the action to proceed despite future harm to a species; at least five votes are required to pass an exemption. The six federal officials are the Secretaries of the Interior (chair), Agriculture, and the Army; the Chair of the Council of Economic Advisors; and the Administrators of the National Oceanic and Atmospheric Administration and of the Environmental Protection Agency.

The law includes extensive rules and deadlines to be followed in applying for such an exemption, a full administrative hearing, and some stringent rules for the ESC in deciding whether to grant an exemption. The ESC must grant an exemption if the Secretary of Defense determines that an exemption is necessary for national security.[63] In addition, and under specified circumstances, the President may determine whether to exempt a project for the repair or replacement of facilities in presidentially declared disaster areas. (A separate discussion of the six times when the exemption process has been invoked is provided in the **Appendix**.[64])

(...continued)

Supreme Court Decides Five Environmental Cases in Its 2006-2007 Term, by Robert Meltz.

[60] 16 U.S.C. §1536(b)(4).

[61] 16 U.S.C. §1536(a).

[62] 16 U.S.C. §1536(g).

[63] 16 U.S.C. §1536(e)-(p).

[64] See also CRS Report R40787, *Endangered Species Act (ESA): The Exemption Process*, by M. Lynne Corn, Kristina Alexander, and Betsy A. Cody.

To be eligible for an exemption, the federal agency concerned and the exemption applicant must have carried out the consultation processes required under Section 7 of the ESA in good faith. Under Section 7(g), the agency also must have made a reasonable and responsible effort to develop and fairly consider modifications or reasonable and prudent alternatives to the proposed action that would not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify critical habitat of a species. The agency must also have conducted required biological assessments. In addition, to the extent determinable within the time provided, the agency must have refrained from making any irreversible or irretrievable commitment of resources. (Such commitments are those that would foreclose the formulation or implementation of reasonable and prudent alternatives that would avoid jeopardizing the species and/or adversely modifying its habitat.[65]) These qualifying requirements were put in place to insure that the exemption process is meaningful and that consideration of the issues would not be preempted by actions already taken. Additional requirements for an application are contained in the relevant regulations.[66]

The ESC shall grant an exemption for the project or activity if, based on the evidence, the ESC determines that

> (i) there are no reasonable and prudent alternatives to the agency action;
>
> (ii) the benefits of such action clearly outweigh the benefits of alternative courses of action consistent with conserving the species or its critical habitat, and such action is in the public interest;
>
> (iii) the action is of regional or national significance; and
>
> (iv) neither the federal agency concerned nor the exemption applicant made any irreversible or irretrievable commitment of resources prohibited by subsection (d) of this section [commitments that jeopardize species or critical habitat].[67]

In addition, the ESA specifies certain particular instances when special provisions will apply to the granting of an exemption. These provisions concern international treaty obligations,[68] national security,[69] and presidentially declared disasters.[70] The ESA does not have a general provision that allows the granting of an exemption in other emergency conditions.

Why Is the Exemption Process Rarely Used?

As outlined above, the exemption process is a complex affair for the applicant, and even without extensions, could take 280 days. Since a decision to exempt an action would, by definition,

[65] 16 U.S.C. §1536(g)(3).

[66] 50 C.F.R. §450 *et seq*.

[67] 16 U.S.C. §1536(h)(1)(A).

[68] 16 U.S.C. §1536(i).

[69] 16 U.S.C. §1536(j).

[70] 16 U.S.C. §1536(p). However, 50 C.F.R. §13.4 states that in emergency conditions, the FWS Director "may approve variations from the requirements of this part [the general permit procedures] when he finds that any emergency exists and that the proposed variations will not hinder effective administration of [the subchapter on permits], and will not be unlawful." It is not clear the extent to which this regulation may provide relief for an agency action that otherwise would likely need an exemption.

jeopardize the continued existence of a species, some find a rigorous process to be appropriate. But even were the process simple, any potential exemption applicant would face these challenges:

- The applicant must fund any required mitigation measures; the funding obligation lasts for the life of the action—potentially forever depending on the nature of the action.
- Because the exemption applies to the action and not to the species, FWS or NMFS must continue to attempt to recover the species. Consequently, the burden of conservation and recovery may fall that much more heavily elsewhere.[71] A governor, trying to balance the interests of an entire state, might find this a particularly difficult obstacle.
- If conservation of a listed species is only one of various statutory obligations under federal or state laws, then an exemption from the ESA for the action may not be sufficient to allow an action to go forward, since those other statutory obligations may still be required.
- Many parties to a dispute may be reluctant publicly to appear to side with the extinction of a species. Moreover, if the increased risk of extinction provides only modest advancement for the action, the rewards of a successful exemption application may not seem worth the effort.

As a practical matter, the consultation process itself offers federal agencies many opportunities to modify their actions to avoid jeopardizing species or adversely modifying their designated critical habitats yet still proceed with their actions. The well-known implications of an ESA conflict prompt agencies to consider the ESA consequences at a very early stage in their actions and to avoid conflict, and specifically to avoid the need for an exemption.

Permits for Nonfederal Actions

For actions by private parties that might take a listed species, but without any federal nexus such as a loan or permit, the Secretary may issue permits to allow "incidental take" of species for otherwise lawful actions.[72] The applicant for an incidental take permit (ITP) must submit a habitat conservation plan (HCP) that shows the likely impact, the steps to minimize and mitigate the impact, the funding for the mitigation, the alternatives that were considered and rejected, and any other measures that the Secretary may require. In the 1990s, the use of this section was greatly expanded, and an agency handbook provides for streamlined procedures for activities with minimal impacts.[73]

[71] For example, an ESC decision to allow a dam to be built in one area despite its effects on a listed species might make a proposed road nearby less likely to be approved, due to the harm to the species already caused from the dam.

[72] As noted above, an incidental take occurs when listed species are harassed, harmed, pursued, hunted, shot, wounded, killed, trapped, captured, or collected incidentally during activities done deliberately but for a lawful purpose other than the objective of taking these listed species.

[73] 16 U.S.C. §1539(a).

Other Provisions

Other provisions specify certain exemptions for raptors; regulate subsistence activities by Alaskan Natives; prohibit interstate transport and sale of listed species and parts (e.g., ivory); control trade in parts or products of an endangered species that were owned before the law went into effect; and specify rules for establishing experimental populations.[74] (Provisions of the ESA referring to international activities are discussed below.)

Prohibitions and Penalties

The ESA prohibits certain actions, specifies criminal and civil penalties, and provides for citizens' suits to enforce certain aspects of the ESA.[75] The citizen suit provisions have been a driving force in the ESA's history, and often have been used to force reluctant agencies to devote greater effort toward conserving the species in question.[76] Recent data suggest that citizen groups drive listings of species that may be at greater risk than those proposed by FWS; the same study showed data to support the thesis that citizen proposals for listings are more likely to concern species in conflict with development.[77] A failure to list species, or delays in listing decisions, are a significant source of lawsuits against FWS and NMFS.

International Applications of the ESA

In addition to providing for listing and protecting species, the ESA is the implementing legislation for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[78] and the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (the Western Hemisphere Convention)[79] for the United States. CITES parallels the structure of ESA by dividing its listed species into groups according to the estimated risk of extinction, but uses three major categories,[80] rather than two. In contrast to the ESA, CITES focuses exclusively on trade, and does not consider or attempt to control habitat loss. The ESA makes violations of CITES violations of U.S. law if committed within the jurisdiction of the United States.[81]

Through the Western Hemisphere Convention, the United States committed to establishing various categories of nature reserves, controlling international wildlife trade with other

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[74] 16 U.S.C. §1539 (b)-(j).

[75] 16 U.S.C. §§1538 and 1540.

[76] For example, see footnote 10, footnote 30, footnote 59, footnote 88, and footnote 108.

[77] Berry J. Brosi and Eric G. N. Biber, "Citizen Involvement in the U.S. Endangered Species Act ," *Science*, vol. 337 (August 17, 2012), pp. 802-803.

[78] TIAS 8249, as signed by the United States, March 3, 1979. See CRS Report RL32751, *The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Background and Issues*, by Pervaze A. Sheikh and M. Lynne Corn.

[79] 50 Stat. 1354; TS 981, as signed by the United States, October 12, 1940.

[80] CITES Appendix I includes species threatened with extinction, and for which trade is permitted only in exceptional circumstances. Appendix II includes species not necessarily threatened with extinction, but for which trade must be controlled to avoid exploitation incompatible with their survival. Appendix III species are those protected in at least one country that has asked other CITES Parties for assistance in controlling the trade.

[81] 16 U.S.C. §1538.

signatories, and protecting wildlife more generally. To some extent, the convention's goals have been subsumed under those of the ESA and other international treaties, particularly with respect to wildlife conservation. The following are the major international provisions of the ESA.

CITES Scientific and Management Authorities

The ESA designates the Interior Secretary as the Endangered Species Scientific Authority (ESSA) specified under CITES.[82] As the ESSA, the Secretary must determine that the United States' international trade of living or dead organisms, or their products, will not harm the species in question. The Secretary has authority to enforce these determinations; this authority is exercised through FWS. The Secretary is required to base export determinations upon "the best available biological information," although population estimates are not required. Certain other responsibilities are also spelled out in CITES.[83]

The Interior Secretary is also named as the Management Authority for the United States under CITES.[84] The Management Authority must assure that specimens are exported legally, that imported specimens left the country of origin legally, and that live specimens are shipped under suitable conditions. Certain other responsibilities are also spelled out in CITES.[85]

Imports/Exports

The ESA requires importers and exporters of controlled products to use certain ports and provides for exemptions for scientific purposes and for programs intended to assist the recovery of listed species.[86]

Selected Provisions of the ESA: A Closer Look

Because the listing of species, the designation of critical habitat, and consultation are such important and controversial aspects of the ESA, each of these components is discussed in greater detail below.

[82] 16 U.S.C. §1537a(a).

[83] 16 U.S.C. §§1537-1538.

[84] 16 U.S.C. §1537a(a).

[85] 16 U.S.C. §1537.

[86] 16 U.S.C. §§1538(f) and 1539(a). Subject to extra fees, importers or exporters may apply to use ports other than the 18 specifically designated by the Secretary (16 U.S.C. §1537(f)). These extra fees may be considerable since qualified FWS agents must be sent to oversee the shipment. Designated ports are Anchorage, Atlanta, Baltimore, Boston, Chicago, Dallas, Honolulu, Houston, Los Angeles, Louisville (KY), Memphis, Miami, New Orleans, New York, Newark, Portland (OR), San Francisco, Seattle. There have been pressures over the years to open other ports, but budget constraints have generally limited such changes.

Listing

Bases for Listings

As discussed above, the listing of a species under the ESA results in greater protection for the species, limitations on activities that might affect that species, and penalties for "taking" individuals of a listed species.

A species may be designated as either endangered or threatened, depending on the severity of its decline and threats to its continued survival. Under Section 3 of the ESA, an *endangered species* is a species that is "in danger of extinction throughout all or a significant portion of its range." A *threatened species* is defined as a species "likely to become endangered within the foreseeable future throughout all or a significant portion of its range." Because the ESA defines *species* as a species, a subspecies, or—for vertebrates only—a "distinct population segment,"[87] there is some flexibility as to how to provide different levels of protection to less than a whole species.

The phrase "all or a significant portion of its range" has had different interpretations. The Department of the Interior (DOI) interpreted the phrase to find that only a species in danger of extinction throughout *all* of its range was truly endangered. Under this interpretation, a species at risk of extinction only in a significant portion of its range would not be considered endangered. With only two exceptions, every court that considered the issue found DOI's interpretation violated the ESA, including one federal court of appeals.[88] And in 2007, DOI changed its interpretation.[89] Under the new interpretation issued by the Solicitor of DOI, FWS must consider whether a species is at risk of extinction throughout a *significant portion of its range*, allowing the agency discretion to define *significant*.[90] The interpretation also states that the *range* of a species is the area in which a species currently exists, not the historical range where the species once existed.

The determination of whether a species should be listed as endangered or threatened must be based on several scientific factors related to a species and threats to its continuance.[91] The ESA expressly states that listing determinations are to be made "solely on the basis of the best scientific and commercial data available."[92] The word "solely" was added in the 1982

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[87] 16 U.S.C. §1532(16).

[88] See, e.g., Defenders of Wildlife v. Norton, 258 F.3d 1136 (9th Cir. 2001); Nat'l Wildlife Fed. v. Norton, 386 F. Supp. 2d 553 (D. Vt. 2005); Defenders of Wildlife v. Norton, 354 F. Supp. 2d 1156 (D. Or. 2005); Defenders of Wildlife v. Norton 239 F. Supp. 2d 9 (D.D.C. 2002). The only two exceptions have been Ctr. for Biological Diversity v. U.S. Fish and Wildlife Service, No. 05-CV-00305-RPM (D. Colo. March 7, 2007); Ctr. for Biological Diversity v. Norton, 411 F. Supp. 2d 1271 (D.N.M. 2005).

[89] Memorandum from the Solicitor, DOI, to the Director, Fish and Wildlife Service, "The Meaning of 'In Danger of Extinction Throughout All or a Significant Portion of its Range'" (March 16, 2007).

[90] Ibid. at 3.

[91] 16 U.S.C. §1533(a)(1) states that the Secretary by regulation shall "determine whether any species is an endangered species or a threatened species because of any of the following factors:

"(A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence."

[92] In full, 16 U.S.C. §1533(b)(1)(A) states: "The Secretary shall make determinations required by subsection (a)(1) of this section solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or (continued...)

amendments to the ESA[93] to clarify that the determination of endangered or threatened status was intended to be made without reference to its potential economic impacts. Observers have compared the decision of whether to list a species to diagnosing whether a patient has a fatal disease: the diagnosis should be a strictly scientific decision, but other factors can be considered later in deciding how to treat the disease. In discussing the addition of the word "solely," a committee report stated:

> The principal purpose of the amendments to Section 4 is to ensure that decisions pertaining to the listing and delisting of species are based solely upon biological criteria and to prevent non-biological considerations from affecting such decisions.... [T]he legislation requires that the Secretary base his determinations regarding the listing or delisting of species "solely" on the basis of the best scientific and commercial data available to him. The addition of the word "solely" is intended to remove from the process of the listing or delisting of species any factor not related to the biological status of the species. The Committee strongly believes that economic considerations have no relevance to determinations regarding the status of species.... The only alternatives involved in the listing of species are whether the species should be listed as endangered or threatened or not listed at all. Applying economic criteria to the analysis of these alternatives and to any phase of the species listing process is applying economics to the determinations made under Section 4 of the Act and is specifically rejected by the inclusion of the word "solely" in this legislation.
>
> Section 4(b) of the Act, as amended, provides that listings shall be based solely on the basis of the best "scientific and commercial data" available. The Committee did not change this information standard because of its interpretation of the word "commercial" to allow the use of trade data.[94]

The conference report also confirms that it was the intent of both chambers that economic factors would not play a role in the designation and listing of species for protection:

> The principal purpose of these amendments is to ensure that decisions in every phase of the process pertaining to the listing or delisting of species are based solely upon biological criteria and to prevent non-biological considerations from affecting such decisions.[95]
>
> The Committee of Conference ... adopted the House language which requires the Secretary to base determinations regarding the listing or delisting of species "solely" on the basis of the best scientific and commercial data available to him.[96]

In summary, the ESA makes clear that the question of whether a species is endangered or threatened is a scientific decision in which economic factors must not play a part. Even so, once this determination is made, economics then may be considered in analyzing and taking other actions such as designating critical habitat or developing recovery plans. Nothing in the ESA prevents choosing conservation methods that will lower costs to society, industry, or landowners, as long as the chosen methods still achieve conservation goals.

(...continued)

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."

[93] P.L. 97-304, 96 Stat. 1411.

[94] H.Rept. 97-567, at 19-20.

[95] H.Rept. 97-835, at 19.

[96] Ibid., at 20.

Pre-Listing Activities

The question may arise as to the responsibilities of the federal government toward a species that is proposed for listing but has not yet been listed. This question could be important because there may be a significant time between the proposal for listing and the actual listing, during which time a federal agency could be faced with decisions on contracts and management actions of various types. Under current law, an agency must "confer" with the appropriate Secretary on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed or to destroy or adversely modify critical habitat proposed to be designated for such species.[97] The implementing regulations state that the conference is designed to assist the federal agency and the applicant (if any) in identifying and resolving potential conflicts at an early stage in the planning process.[98]

The conference process that applies to species proposed for listing is distinct from the consultation process that applies to listed species. The conference is intended to be less formal, and to permit FWS or NMFS to advise an agency on ways to minimize or avoid adverse effects. A federal agency has to follow more formal procedures and provide more complete documentation once a species is listed. The agency may choose to follow the more complete and formal process even at the proposed listing stage to avoid duplication of effort later.[99]

The ESA states that the conference stage does not require a limitation on the irreversible or irretrievable commitment of resources by agency action which would foreclose reasonable and prudent alternative measures.[100] Once a species is listed, an agency will have definite responsibilities, and an agency might consider it prudent at the proposed listing stage both to avoid harm to a precarious species and to avoid possible liability for compensation arising from agency actions creating private rights that later cannot be exercised. For example, an agency might choose to avoid holding timber sales in an area containing a proposed species. The relevant Secretary must monitor candidate species and prevent a significant risk to the well-being of any such species.

Special Rules for Threatened Species

The Secretary may promulgate special regulations to address conserving species listed as threatened.[101] Protections and recovery measures for a particular threatened species can be carefully tailored to particular situations as was done, for example, with respect to the threatened northern spotted owl and the polar bear. A federal regulation also clarifies that a threatened species for which a special rule has not been promulgated enjoys the same protections as endangered species.[102]

[97] 16 U.S.C. §1536(a)(4).

[98] 50 C.F.R. §402.10.

[99] Ibid.

[100] 16 U.S.C. §1536(a)(4).

[101] 16 U.S.C. §1533(d). This is Section 4(d) of the law and therefore such rules are often called "4 D rules."

[102] 50 C.F.R. §17.31.

Distinct Population Segments

A distinct population segment (DPS) under the ESA refers to a portion of a listed species, separated from the rest of the species by genetic distinction and range.[103] By definition, only vertebrates may be designated as a DPS.[104] In 1996 a policy regarding DPS was introduced by FWS.[105] The policy contains the criteria that must be met for designating a DPS. The population must be discrete and significant. Discreteness is based on separation from other groups of its kind.[106] To be significant, the segment's demise must be an important loss of genetic diversity.

Once the appropriate Service finds a DPS exists, its protection status is determined using the same criteria as for other listings. If the DPS is found to be threatened, special rules under Section 4(d) of the ESA may be written. One DPS designation that has prompted extensive litigation is that of the gray wolf, with each DPS established since 2003 vacated by courts.[107] In one decision, a court said that FWS had not used the DPS process correctly when it both created a DPS and removed all protection for that DPS at the same time.[108]

NMFS developed the concept of evolutionarily significant units (ESUs) as a way of interpreting the "distinct population segment" language in Section 3(16) of the ESA.[109] ESUs generally include multiple (often as many as 20 to 30) populations or stocks, and are intended to identify important groups of salmon populations. As of September 21, 2012, 28 ESUs of salmon and steelhead trout along the Pacific coast were listed as either endangered or threatened under the ESA.[110]

The ESU concept has been problematic to some because it is not specifically scientifically based—the term was not used or recognized before NMFS invented it.[111] NMFS chose to use the ESU concept for both policy and scientific reasons: the stock level was not practical because there are thousands of distinct stocks; and the full species level would not distinguish among distinct population segments that have different situations. The question of whether hatchery fish may be assigned to an ESU, thereby augmenting an ESU's population count, has been particularly controversial.[112]

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[103] For more discussion on distinct population segments, see CRS Report RL34238, *Gray Wolves Under the Endangered Species Act (ESA): Distinct Population Segments and Experimental Populations*, by Kristina Alexander and M. Lynne Corn.

[104] 16 U.S.C. §1532(16).

[105] 61 *Federal Register* 4722 (Feb. 7, 1996).

[106] Discreteness can be "the consequence of physical, physiological, ecological, or behavioral factors." Ibid., p. 4725.

[107] For more on wolves and DPSs, see CRS Report RL34238, *Gray Wolves Under the Endangered Species Act (ESA): Distinct Population Segments and Experimental Populations*, by Kristina Alexander and M. Lynne Corn.

[108] *Humane Society of the United States v. Kempthorne*, 579 F. Supp. 2d 7 (D.D.C. 2008) (western Great Lakes DPS).

[109] 56 *Federal Register* 58612 (Nov. 20, 1991).

[110] http://www.nmfs.noaa.gov/pr/species/esa/fish.htm. For more information, see CRS Report 98-666, *Pacific Salmon and Steelhead Trout: Managing Under the Endangered Species Act*, by Eugene H. Buck and Harold F. Upton.

[111] D. S. Pennock and W. W. Dimmick, "Critique of the Evolutionarily Significant Unit as a Definition for Distinct Population Segments under the U.S. Endangered Species Act," *Conservation Biology*, v. 11 (1997): 611-619.

[112] For more information, see CRS Report R40169, *Endangered Species Act Issues Regarding Columbia Basin Salmon and Steelhead*, by Kristina Alexander and Eugene H. Buck

Experimental Populations

In 1982 Congress added the concept of experimental populations to the ESA as a way of reintroducing species to its historic range without risking severe restrictions on the use of private and public land in the area.[113] Two criteria must be met to qualify for reintroduction as an experimental population. First, the Service must have authorized the release of the population. Second, the population must be wholly separate geographically from other animals of that species.[114] Congress required the separation so that the introduced population could be clearly distinguished.

An experimental population's protection status is determined differently from DPS or other species. If the experimental population is in imminent danger of extinction it is deemed essential. (Currently, there are no essential experimental populations.) Otherwise it is treated as nonessential, and is considered threatened. Special regulations under Section 4 of the ESA are made regarding these populations, and can include rules for taking the species. Unless the experimental population is in a national wildlife refuge or a national park, no Section 7 consultation is required for an agency action that may take a member of the population. No critical habitat is designated for nonessential experimental populations.

Designation of Critical Habitat

Critical habitat designation has been controversial, given FWS's stated position (see below), the importance that the environmental community attaches to critical habitat (especially in some specific cases), and the possibility of effects from designation on landowners.

The Secretary, "to the maximum extent prudent and determinable,"[115] is to designate critical habitat of a species at the same time as listing. The reference to the designation of critical habitat being "prudent" reflects the need to consider whether designating habitat would harm the species, for example, by identifying areas that could be damaged by specimen collecting. If the facts relevant to the designation of critical habitat are not yet "determinable," the Secretary may postpone habitat designation for an additional year. Eventually, with the exception of designations that would not be prudent, critical habitat is to be designated.[116] Even so, as of September 21, 2012, critical habitat has been designated for 44.1% of the 1,403 listed domestic animal and plant species.

If the Secretary designates critical habitat, the Secretary must do so

> on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. The Secretary may exclude any area from critical habitat if he determines that the benefits of such

[113] P.L. 97-304 §6(6), 96 Stat. 1424; 16 U.S.C. §1539(j). Experimental population designations are sometimes referred to as *Section 10(j) rules*. For more discussion on experimental populations, see CRS Report RL34238, *Gray Wolves Under the Endangered Species Act (ESA): Distinct Population Segments and Experimental Populations*, by Kristina Alexander and M. Lynne Corn.

[114] Plants are eligible for re-introduction as experimental populations, but to date, no plants have been designated as such.

[115] 16 U.S.C. §1533(a)(3).

[116] 16 U.S.C. §1533(b)(6)(C).

> exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned.[117]

Therefore, although economic factors are *not* to be considered in the listing of a species as endangered or threatened, economic factors *must* be considered in the designation of critical habitat, and some habitat areas may be excluded from designation based on such concerns, unless the failure to designate habitat would result in the extinction of the species.

Although avoiding adverse modification of critical habitat is an express obligation only for federal agencies and actions, it is frequently misunderstood by the public as the major restriction on a private landowner's authority to manage land. However, restrictions on use of private land come primarily from the ESA's prohibition on taking (as defined) of listed species. Only occasionally—when some federal nexus is present—are they due to any additional strictures resulting from designated critical habitat.[118] Moreover, the ESA provides significantly fewer restrictions on the nonfederal taking of listed plants than listed animals.[119]

Low Priority from FWS for Designation

The Clinton, George W. Bush, and Obama Administrations have supported restrictions on FWS's ability to designate critical habitat under the ESA through restrictions under the appropriations process.[120] According to FWS, critical habitat designation shows its greatest conservation benefit when it includes areas not currently occupied by the species; these areas may be important as connecting corridors between populations or as areas in which new populations may be re-introduced. In an announcement on October 22, 1999, FWS placed designation of critical habitat at the lowest priority in its listing budget, and stated that it could not comply with all of the demands of the ESA under its budget constraints. Conservation groups saw a contradiction between that claim, and the agency's repeated failure to request increased funds for listing, together with requests that Congress place a special cap on funding for designation of critical habitat.[121]

FWS has been sued frequently for its failure to designate critical habitat and consistently loses such suits. In the agency's view, critical habitat offers little protection for a species beyond that already available under the listing process, and thus the expense of designation, combined with its

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[117] 16 U.S.C. §1533(b)(2).

[118] See CRS Report RS20263, *Designation of Critical Habitat under the Endangered Species Act (ESA)*, by Pamela Baldwin.

[119] Compare 16 U.S.C. §1538(a)(1) and (2).

[120] For example, P.L. 111-88 contained the following language: "not to exceed $22,103,000 shall be used for implementing subsections (a), (b), (c), and (e) of section 4 of the Endangered Species Act, as amended, (except for processing petitions, developing and issuing proposed and final regulations, and taking any other steps to implement actions described in subsection (c)(2)(A), (c)(2)(B)(i), or (c)(2)(B)(ii)), of which not to exceed $11,632,000 shall be used for any activity regarding the designation of critical habitat, pursuant to subsection (a)(3), excluding litigation support, for species listed pursuant to subsection (a)(1) prior to October 1, 2009." While the exact figures have changed, for more than a decade FWS Budget Justifications have supported continuation of this restriction in appropriations bills. For the current status on appropriations restrictions, see CRS Report R41608, *The Endangered Species Act (ESA) in the 112th Congress: Conflicting Values and Difficult Choices*, by Eugene H. Buck et al..

[121] See, for example, Robert Wiygul and Heather Weiner, "Critical Habitat Destruction," *Environmental Forum*, vol. 16, no. 6 (May/June 1999): 12-21.

perception of a small margin of additional conservation benefit, make critical habitat requirements a poor use of scarce budgetary resources, especially if the public views critical habitat as the major regulatory impact of the ESA, rather than as a supplement to the ESA's prohibition on "taking" a listed species.[122]

The designation of critical habitat may provide protection of listed species in the context of federal actions. Federal agencies must consider whether their actions are likely to destroy or adversely modify that critical habitat under the Section 7 consultation provisions, meaning this protection is not available for species without such habitat designated. The FWS has disagreed that there was extra protection provided in this way, saying that it was rare that a habitat would be harmed in this way without the species also being put in jeopardy. Therefore, according to FWS, having critical habitat designated did not provide additional protection from federal actions because the jeopardy consideration would provide the necessary protection.[123] This was based in part on the FWS regulatory definition of "destroy or adversely modify" that required that the federal action must "appreciably diminish the value of critical habitat for both the survival and recovery of a listed species."[124] However, it was argued that the definition improperly shifted the focus from recovery of the species to survival of the species. Two federal courts of appeal agreed, holding that the definition was contrary to the ESA because it ignored the recovery goal of the law.[125] Despite being ruled invalid by two federal courts, that definition still appears in the CFR.

Post-Listing Activities: Consultation

Under Section 7 of the ESA,[126] federal agencies are required to consult with the Secretary about proposed actions that might affect a listed species; to use their authorities in furtherance of the ESA; and to insure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species, or to destroy or adversely modify critical habitat unless the agency has been granted an exemption under the ESA.[127] Consultation is usually begun at the request of the action agency, but may be initiated at the request of an FWS Regional Director or NMFS's Assistant Administrator for Fisheries.[128]

Science plays an important role in the consultation process because the Secretary is to use the "best scientific and commercial data available" to ascertain if a listed species might be present in the area of a proposed agency action.[129] If so, the action agency is to prepare a "biological

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[122] On May 27, 1999, FWS Director Jamie Clark testified: "under Section 7, Federal agencies already consult with the Service on activities affecting listed species. In essence, these two processes [agency protection of listed species and of designated critical habitat] often are identical, making critical habitat designation a redundant expenditure of conservation resources." Senate Committee on Environment and Public Works, S. Hrg. 106-437 on S. 1100.

[123] *Sierra Club v. United States Fish and Wildlife Serv.*, 245 F.3d 434, 441-42 (5th Cir.2001).

[124] 50 C.F.R. §402.02 (1986).

[125] *Gifford Pinchot Task Force v. FWS*, 378 F.3d 1059 (9th Cir. 2004); *Sierra Club v. United States Fish and Wildlife Serv.*, 245 F.3d 434, 441-42 (5th Cir.2001). See also *N.M. Cattle Growers Ass'n v. United States Fish and Wildlife Serv.*, 248 F.3d 1277, 1283 & n. 2 (10th Cir.2001).

[126] 16 U.S.C. §1536.

[127] Regulations on consultation are found at 50 C.F.R. Part 402.

[128] 50 C.F.R. §402.14; and see the definition of *Director* in §402.02.

[129] 16 U.S.C. §1536(c). For additional information on the use of science in the ESA process, see CRS Report RS21500, *The Endangered Species Act (ESA), "Sound Science," and the Courts*, by Pamela Baldwin, and CRS Report RL32992, *The Endangered Species Act and "Sound Science,"* by Eugene H. Buck, M. Lynne Corn, and Kristina Alexander.

assessment" to explore whether a proposed action might jeopardize a listed species or its critical habitat. This assessment also is to be based on "the best scientific and commercial data available."[130] Consultation must also be initiated in connection with private lands if an applicant for (or recipient of) federal funding, permit, or license has reason to believe that a listed species may be present in the area affected by a project and implementation of the action will likely affect the species.[131]

The relevant Secretary generally is to complete consultation within 90 days for a wholly federal action, unless the Secretary and the federal agency mutually agree to a longer period (up to 150 days) and reasons are given for the delay.[132] A consultation involving a nonfederal party is to be completed within the time agreed to by the Secretary, the federal agency involved, and the applicant concerned.[133] In practice, formal consultation may take a year or more.

Thereafter, FWS or NMFS will prepare a written statement, known as the *biological opinion* (BiOp), analyzing whether the proposed agency action is likely to jeopardize the continued existence of a listed species or to destroy or adversely modify critical habitat. The ESA does not expressly state that the BiOp is to be based on the "best scientific and commercial data available," but this arguably is implied, and is expressly required under the implementing regulations, which require that the consulting agency provide "the best scientific and commercial data available or which can be obtained during the consultation."[134] Such information is to be the basis of the BiOp,[135] and the BiOp is to include a summary of the information on which the opinion is based.[136]

The BiOp may conclude that the agency action is not likely to jeopardize the species, or that the action can be modified to avoid jeopardy. If so, FWS or NMFS may issue an incidental take statement that excuses the taking of listed species incidental to the otherwise lawful activities that are to take place. In the latter case, when the BiOp concludes that the proposed action is likely to jeopardize the species, FWS or NMFS must suggest reasonable and prudent alternatives to avoid jeopardy and mitigate the impacts of the action. If no reasonable and prudent alternatives are feasible, then the agency proposing the action must (1) forego the action, (2) risk incurring penalties under the ESA, or (3) obtain a formal exemption from the penalties of the ESA as set out below.

Regulations for the consultation process were revised in 2008.[137] However, a 2009 law authorized the Secretaries to withdraw the revised regulations and to return the previous regulations to effect.[138] On May 4, 2009, the revised regulations were withdrawn.[139]

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[130] 16 U.S.C. §1536(a)(2).

[131] 16 U.S.C. §1536(a)(3).

[132] 16 U.S.C. §1536(b)(1). FWS and NMFS begin the 90-day clock when they receive a complete BA with all of the information needed for consultation; action agencies are often asked for more information than the data submitted in the original BA. Action agencies deplore the delays; the two Services respond that consultation requires adequate data about the project.

[133] 16 U.S.C. §1536(b)(2).

[134] 50 C.F.R. §402.14(d).

[135] 50 C.F.R. §402.14(g)(8).

[136] 50 C.F.R. §402.14(h).

[137] 73 Fed Reg. 76272 (Dec. 16, 2008).

[138] P.L. 111-8, §429.

Appendix. Exemption Applications

In three instances, an Endangered Species Committee (ESC) reached a decision on an application for an exemption:

Grayrocks Dam. The Platte River is a major stopover site on the migration path of whooping cranes, listed under the ESA as an endangered species. FWS determined that the construction of the Grayrocks Dam and Reservoir in Wyoming, along with existing projects in the Platte River Basin, would jeopardize the downstream habitat of whooping cranes. The ESC voted (7-0) to grant an exemption for Grayrocks Dam and Reservoir on January 23, 1979, conditioned on specified mitigation measures that included maintenance and enhancement of critical whooping crane habitat on the Platte River, as well as a permanent, irrevocable trust fund to pay for these activities. A previous enactment by Congress would have exempted the project, if the ESC had not reached a decision within a certain time.[140]

Tellico Dam. The Tellico Dam on the Little Tennessee River was to serve multiple purposes.[141] It was vigorously opposed by several sectors, including local landowners and Indian tribes. After the snail darter (a fish) was listed as endangered, litigation was filed to stop the construction of the dam, resulting in the landmark Supreme Court case *TVA v. Hill*. The decision clarified the broad reach of the ESA, and its relationship to the question of ratification of public works projects through appropriations measures. The decision was quickly followed by congressional passage of P.L. 95-632, which provided for an ESC process. The measure also gave an automatic exemption to the dam if the ESC did not reach a decision within a specified time. Directed to take economic implications into account, the ESC denied an exemption for Tellico (on a 7-0 vote), but in P.L. 96-69, Congress directed that the dam be completed, notwithstanding any other provision of law. Subsequently, additional snail darters were found in a few other locations, and the snail darter was reclassified as threatened.

Bureau of Land Management Timber Sales. The Bureau of Land Management, an agency in DOI, sought an exemption for 44 Oregon timber sales in the habitat of the threatened northern spotted owl. In 1992, the ESC voted (5-2) to grant an exemption for 13 of the sales. Controversy over the sales and the processes within the Department continued, and the 13 timber sales were subsequently withdrawn in the Clinton Administration.

In three other instances, there were applications for exemptions, but no ESC decisions:

Pittston Company Refinery. The Pittston Company applied for an exemption to build a refinery in Eastport, Maine. Following jeopardy opinions based on probable effects on threatened bald eagles and endangered right and humpback whales, the company applied for an exemption, but further action on this application appears to have been discontinued in 1982.

(...continued)

[139] For details on the revisions and the legislation authorizing their replacement, see CRS Report RL34641, *Changes to the Consultation Regulations of the Endangered Species Act (ESA)*, by Kristina Alexander and M. Lynne Corn.

[140] P.L. 95-632.

[141] For a history of the Tellico Dam controversy, see William Bruce Wheeler and Michael J. McDonald, *TVA and the Tellico Dam, 1936-1979* (Knoxville, TN: University of Tennessee Press, 1986), 290 p.

Consolidated Grain and Barge Company Docking Area. This company sought to build a docking area for barges at Mound City, Illinois, on the Ohio River, an area that was habitat for an endangered mussel. Following a jeopardy opinion, and a denial of permits by the Army Corps of Engineers, the company applied for an exemption, but withdrew the application in 1986.

Suwanee River Authority. The consulting engineer of the Suwanee River Authority applied for an exemption for a project to dredge Alligator Pass in Suwanee Sound, Florida, part of the habitat for the endangered manatee. The project had been denied a permit by the Army Corps of Engineers. The engineer apparently lacked the authority to apply on behalf of the Authority, which in 1986 refused to ratify his actions and withdrew the application. Although the engineer attempted to continue the application, the withdrawal was effective.

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