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Briefing Report to the Chairman, Committee on Science, Space, and Technology, House of Representatives

May 1992

ENDANGERED SPECIES ACT

Types and Number of Implementing Actions

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Resources, Community, and
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May 8, 1992

The Honorable George E. Brown, Jr.
Chairman, Committee on Science,
Space, and Technology
House of Representatives

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

Dear Mr. Chairman:

Your Committee requested that we examine certain aspects of the implementation of the Endangered Species Act of 1973 (ESA). First, your Committee asked that we report information on decisions made between fiscal years 1974 and 1991 by the two federal agencies primarily responsible for implementing the ESA—the Fish and Wildlife Service (FWS) in the Department of the Interior and the National Marine Fisheries Service (NMFS) in the Department of Commerce. Second, we were asked to examine and report on FWS and NMFS processes leading to ESA listing decisions and determine the extent to which such decisions are based solely on the best available scientific and commercial information. This work is currently under way.

On February 12, 1992, we briefed members of your staff on the results of our initial work. This briefing report summarizes the information we presented and focuses on describing and analyzing the major processes for affording species protection under the ESA and on highlighting the level of activity and timeliness of the major processes. Our key observations follow:

- The ESA establishes five major processes for protecting plants and animals. FWS/NMFS (1) review petitions for species protection submitted by the public, (2) determine whether species should be placed on their list of species that are facing possible extinction and whether habitat critical to the species' protection should be designated, (3) consult with federal agencies proposing activities that may affect listed species, (4) develop plans to aid in the recovery of listed species, and (5) review conservation plans and associated applications from private individuals permitting them to proceed with activities that may incidentally harm listed species. (See sec. 3.)
- ESA criteria specify required time frames and factors that FWS/NMFS must consider when making decisions related to these processes. They also delineate the processes during which economic factors may be considered in reaching decisions. The listing and consultation processes must be

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based solely on the best scientific and commercial data available. Other decisions, such as the designation of critical habitat and the granting of exemptions from the ESA, may take into account economic and other nonbiological factors. (See sec. 1.)

- The agencies have designated habitat critical to the protection of less than 20 percent of the species that have been listed. According to agency officials, this is primarily due to their belief that designating critical habitat does not provide much additional benefit for a species and that, when compared with other ESA requirements, critical habitat designation is considered a low priority. (See sec. 4.)
- Over 90 percent of the times during fiscal years 1987 through 1991 that other federal agencies asked FWS or NMFS to consider the effect of proposed actions (such as construction) on a listed species, the agencies' biological opinions found no jeopardy to the species, thus enabling the projects to proceed as planned. In the remaining cases, almost 90 percent of the agencies' opinions offered alternative actions that would mitigate the threat to the species and allow the projects to go forward. (See sec. 4.)
- The agencies have made slow progress but are paying greater attention to developing mandated plans to guide the recovery of listed species; currently, over 60 percent of all listed species have approved recovery plans. (See sec. 4.)
- While more than 650 domestic species are on the endangered species list, 600 others (known as candidate species) are recognized by the agencies as being vulnerable enough to support proposals that would list them as endangered or threatened. At the present pace of listing activity, it will take FWS until 2006 to list these species as endangered or threatened, even if no additional species are determined to be in need of protection. On the basis of data available to FWS, an additional 3,000 candidate species may be threatened or endangered. The agencies attribute their slow listing progress to resource constraints. (See sec. 4.)

In conducting our review, we examined the ESA and agency implementing regulations so that we could prepare comprehensive flowcharts of the ESA's processes. To quantify the level of FWS and NMFS activity in implementing those processes, we initially reviewed existing centralized agency data bases maintained at the agencies' headquarters offices. We also visited each FWS and NMFS regional office and administered questionnaires to these offices to obtain additional information. As agreed with your office, we did not collect information on the agencies' activities with respect to species outside of the United States. (See sec. 2.)

We discussed the information in this briefing report with the Deputy Assistant Director for Fish and Wildlife Enhancement, FWS, and the Deputy Assistant Administrator for Fisheries, NMFS, who generally agreed with the facts as presented. As you requested, we did not obtain written comments from the Departments of Commerce and the Interior on a draft of this briefing report.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this briefing report until 30 days from the date of this letter. At that time, we will send copies to the Secretaries of Commerce and the Interior. We will make copies available to others upon request. Please contact me on (202) 275-7756 if you or your staff have any questions. Other major contributors to this briefing report are listed in appendix I.

Sincerely yours,

James Duffus III
Director, Natural Resources
Management Issues

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Abbreviations

ESA	Endangered Species Act
FWS	U.S. Fish and Wildlife Service
GAO	General Accounting Office
NMFS	National Marine Fisheries Service

Background

- The Congress enacted the Endangered Species Act (ESA) in 1973 to protect plant and animal species whose survival was in jeopardy. The ESA's ultimate goal is to restore species so that they can live in self-sustaining populations without the act's protection.
- Any person or organization may petition the Fish and Wildlife Service/ the National Marine Fisheries Service (FWS/NMFS) to add a species to the endangered species list.
- Species are listed under the ESA as threatened or endangered, depending on their risk of extinction. An endangered species is any species at risk of extinction in all or a significant portion of its range, whereas a threatened species is one that is likely to become endangered in the foreseeable future in all or a significant portion of its range. In practical terms, the ESA affords essentially the same level of protection to threatened and endangered species.
- Any one or combination of the following conditions indicates that a species should be listed as endangered or threatened: destruction or modification of habitat; exploitation for commercial, scientific, educational, or recreational purposes; disease or predation; inadequate regulatory protection for the species; or other man-made or natural factors affecting the species' continued existence.
- The ESA also provides for the protection of geographical areas that are essential to the conservation of listed species. Such areas are termed "critical habitat" under the act.
- The listing of a species limits activities that could harm the species or its habitat. Specifically, section 9 of the ESA prohibits the "taking" of listed species. "Taking" or "take" means to harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect.
- Once a species is listed, the ESA requires that all federal agencies must consult with FWS/NMFS if the agencies' proposed projects are likely to harm listed species or adversely modify their critical habitat.
- In addition, the act requires that FWS/NMFS develop and implement a recovery plan to reverse the decline of each listed species and ensure its long-term survival, unless such a plan would not benefit the species.
- The Congress recognized that the ESA, as originally passed, could lead to conflicts between development and listed species. Thus, it amended the ESA in 1978 and 1982 by adding the following mechanisms that balance species' protection with the need for economic progress:
  - Federal agencies whose actions would likely jeopardize listed species may receive exemptions from the ESA's requirements if a cabinet-level Endangered Species Committee determines that the benefits of the proposed federal actions clearly outweigh the benefits of preserving the species.

- The agencies responsible for implementing the ESA are required to consider the economic impacts of designating areas as critical habitat.
- The implementing agencies may issue permits to private parties whose development projects could lead to the incidental taking of listed species. The ESA and its implementing regulations define "incidental take" as takings resulting from, but not the purpose of, an otherwise lawful activity.

- Two agencies have primary responsibility for implementing the act's provisions: FWS is responsible for protecting freshwater and land species, and NMFS is responsible for protecting most marine species. Each agency implements the ESA through a system of regional offices.
- The ESA's budgets for the two agencies have increased in recent years. For example, FWS' budget has increased from $18.8 million in fiscal year 1988 to $42.3 million for fiscal year 1992. NMFS reported that its ESA budget has increased from $3.7 million to $8.2 million during the same period.
- The ESA is currently authorized through fiscal year 1992. Increasing national attention has been focused on the ESA as reauthorization approaches.

Objectives, Scope, and Methodology

Objectives

- This report summarizes information presented to staff of the Subcommittee on Environment, House Committee on Science, Space, and Technology, describing and analyzing the major processes for protecting domestic species, as well as highlighting the level of activity and timeliness of the major processes. As agreed, we plan to prepare a subsequent report that will examine FWS/NMFS processes used to reach ESA listing decisions and determine the extent that such decisions are based solely on the best available scientific and commercial information.

Scope and Methodology

- We reviewed the ESA's and FWS'/NMFS' implementing regulations and related internal policies.
- We identified, gathered, and analyzed data related to the actions taken under each of the act's five major processes: the petition process, the listing and critical habitat designation process, the consultation process, the recovery process, and the habitat conservation planning process. As agreed, we did not collect information on the agencies' activities with respect to species outside of the United States.
- In assembling these data, we did the following:
  - We obtained FWS/NMFS headquarters data bases on the numbers of petition, listing, and critical habitat decisions essentially covering the period fiscal years 1974 through 1991. We discussed the completeness and accuracy of this information with FWS/NMFS officials at their headquarters and regional offices.
  - Because these data bases contained limited data on the consultation process and recovery plans, we supplemented these data with information obtained from written questionnaires and structured interviews administered in each FWS and NMFS regional office. We obtained data on consultations occurring between fiscal years 1987 and 1991, and for recovery plans between fiscal years 1974 and 1991.
  - Through questionnaires to the regional offices, we obtained data on the agencies' performance in meeting the ESA's decision-making time frames.
- The geographical scope of our analysis included activities at FWS and NMFS headquarters, all seven FWS regional offices, and all five NMFS regional offices.
- We performed our work between February 1991 and January 1992 in accordance with generally accepted government auditing standards.

ESA Processes and Agency Decision-Making Requirements

- The ESA establishes five major processes for protecting plant and animal species: the petition process, the listing and critical habitat designation process, the consultation process, the recovery process, and the habitat-conservation planning process.
- Each of the ESA's major processes is summarized in this section. See figures 3.1 through 3.3 for additional detailed information regarding the petition, listing and critical habitat designation, and consultation processes.
- ESA criteria specify required time frames and the factors that FWS/NMFS must consider when making ESA-related decisions. While species-listing decisions must be made solely on the basis of the best scientific and commercial data available,[1] hereafter referred to as biological data, potential economic impacts may be considered in such cases as (1) when the agencies designate critical habitat and (2) when the Endangered Species Committee considers granting an exemption.

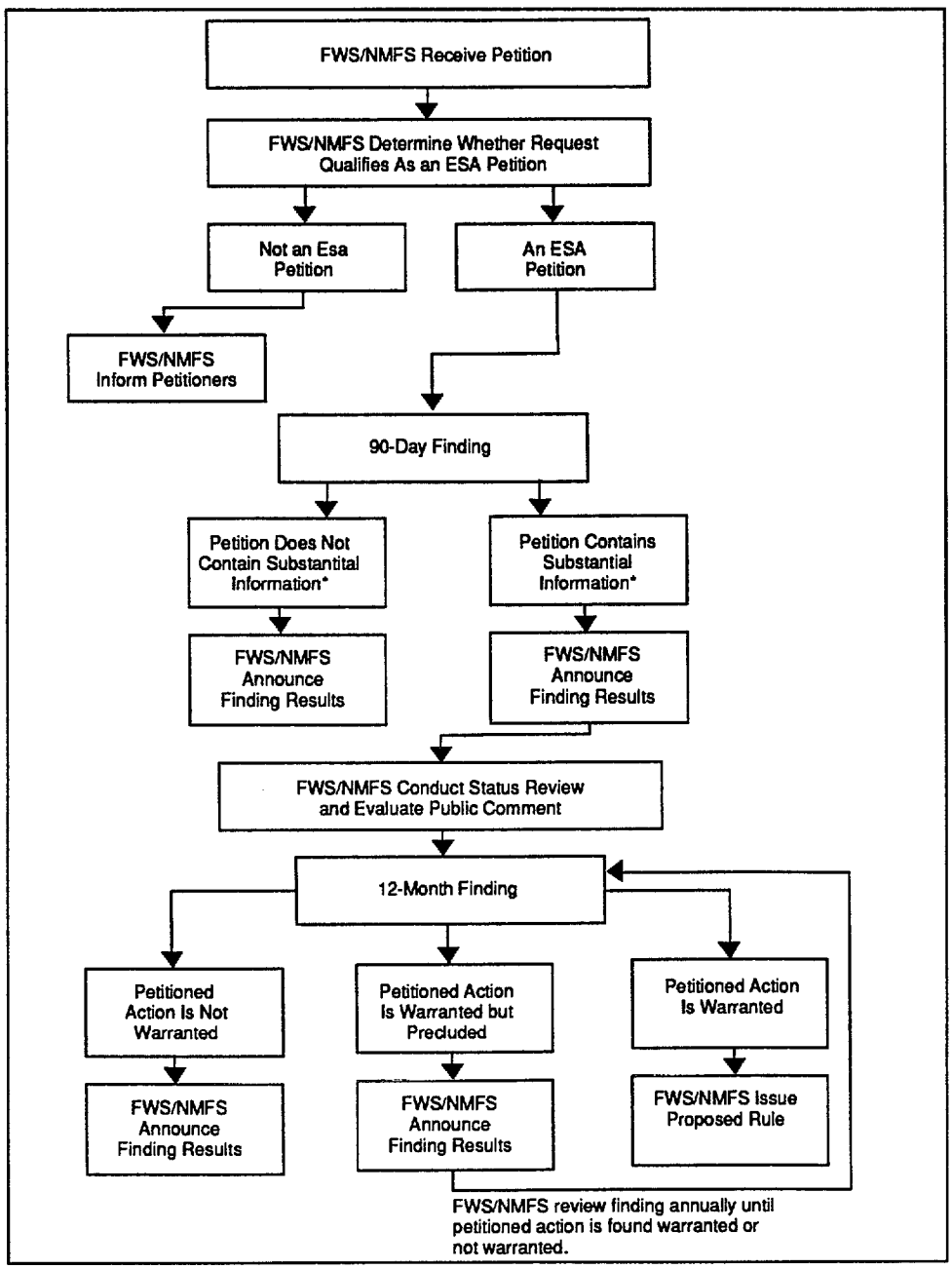
The Petition Process

- Any person or organization may petition FWS/NMFS to add a species to the endangered species list. Petitions can also be submitted to "delist" a species, reclassify a listed species (e.g., from threatened to endangered), or designate or revise critical habitat.
- Within 90 days of receiving a petition, FWS/NMFS are required to make a determination (called a "90-day finding") as to whether the petition presents "substantial" or adequate biological data to indicate that the petitioned action may be warranted. If FWS/NMFS find that the petition contains adequate data, they proceed with a review of the species' status. If, in their opinions, the petition does not contain sufficient data, FWS/NMFS notify the petitioner that additional data are needed.
- For those petitions presenting adequate biological data, FWS/NMFS must make a determination (called a "12-month finding") as to whether the petitioned action is warranted. This determination must be made within 12 months of receiving the petition. Specifically, FWS/NMFS may find that the petitioned action is warranted, not warranted, or warranted but precluded. Petitioned actions are given the warranted but precluded designation when other pending listing actions take precedence and/or additional data are needed to make a warranted finding. Warranted but precluded findings must be reviewed on an annual basis until the petitioned action is found to be warranted or not.

[1]The word "solely" was added to the ESA by the 1982 amendments to ensure that a listing decision is based exclusively on an evaluation of the biological risks faced by the species. The word "commercial" is included to allow the use of trade data (e.g., data concerning salmon harvests) but does not authorize the use of economic considerations as part of the listing process.

- Shortly after making a warranted 12-month finding, FWS/NMFS proceed with the listing process as described below, starting on page 13.

Figure 3.1: The Petition Process

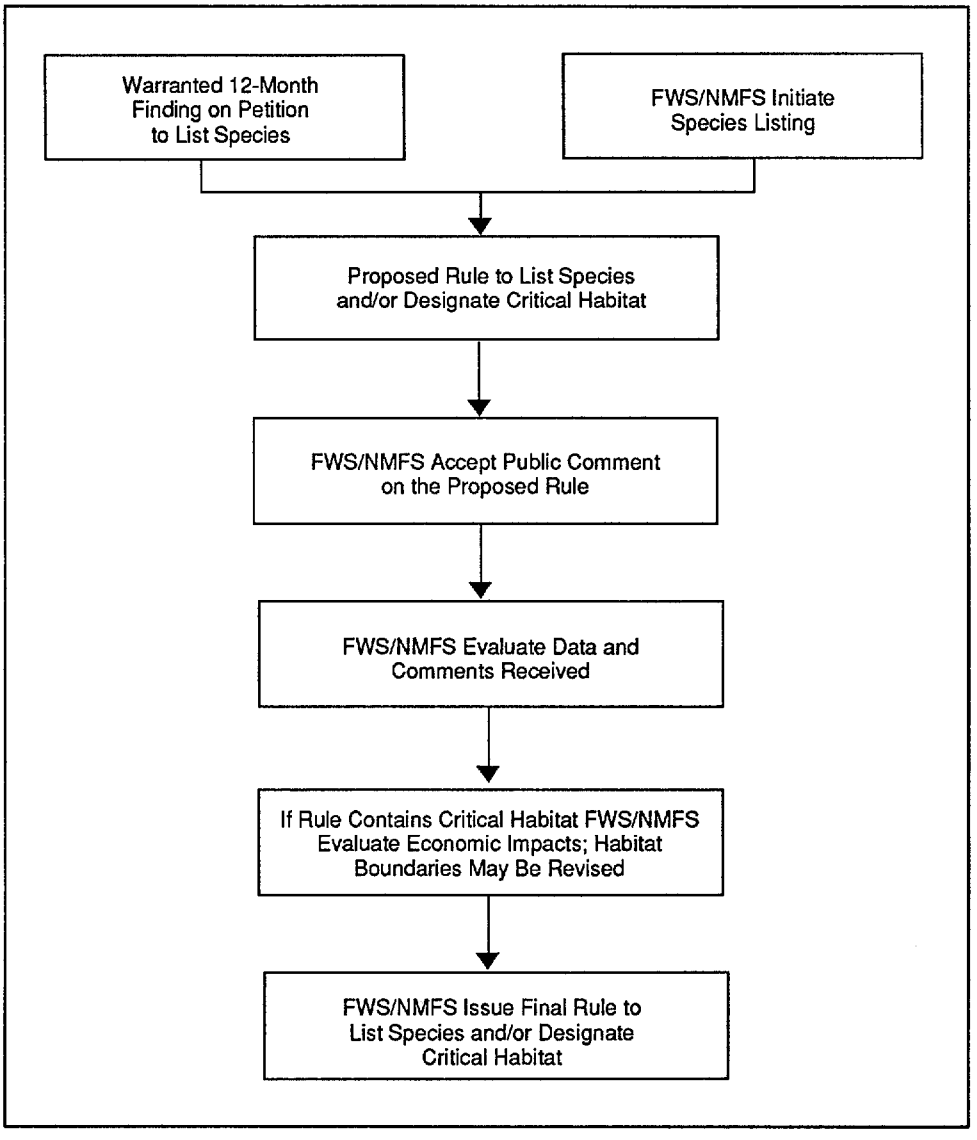


Note: "Substantial information" is defined as information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted.

The Listing and Critical Habitat Designation Processes

- Species may be listed through the petition process as discussed above or at the initiation of FWS/NMFS if they have adequate biological data indicating that a species warrants protection under the ESA. In either case, FWS/NMFS publish a proposed rule in the Federal Register to begin the listing action. ESA protection for the species begins when a proposed rule is issued.
- FWS/NMFS accept public comments on proposed rules for at least 60 days following their publication and, if any person requests, will hold at least one public hearing.
- Within 1 year of the publication of a proposed rule, FWS/NMFS are required to issue a final rule to implement the listing action. However, FWS/NMFS may also find that the listing action should not be made, withdraw the proposed rule if the available evidence does not justify the action, or extend the 1-year period for 6 months if there is disagreement regarding the sufficiency or accuracy of the available biological data.
- The ESA requires that FWS/NMFS designate critical habitat to the maximum extent prudent at the time they list a species unless it would not benefit the species or if insufficient data exist on which to base the designation. In the latter case, FWS/NMFS have an additional 12 months to gather data and make the designation.
- In making critical habitat designations, FWS/NMFS may consider the potential economic impacts of specifying a particular area as critical habitat. However, FWS/NMFS may not exclude an area from a critical habitat designation if doing so would lead to the species' extinction.

Figure 3.2: The Listing and Critical Habitat Designation Process



Note: Listing usually becomes effective 30 days after final rule is issued. FWS/NMFS may take an additional 12 months, after issuance of the final rule, to designate critical habitat if insufficient data exist on which to base the designation.

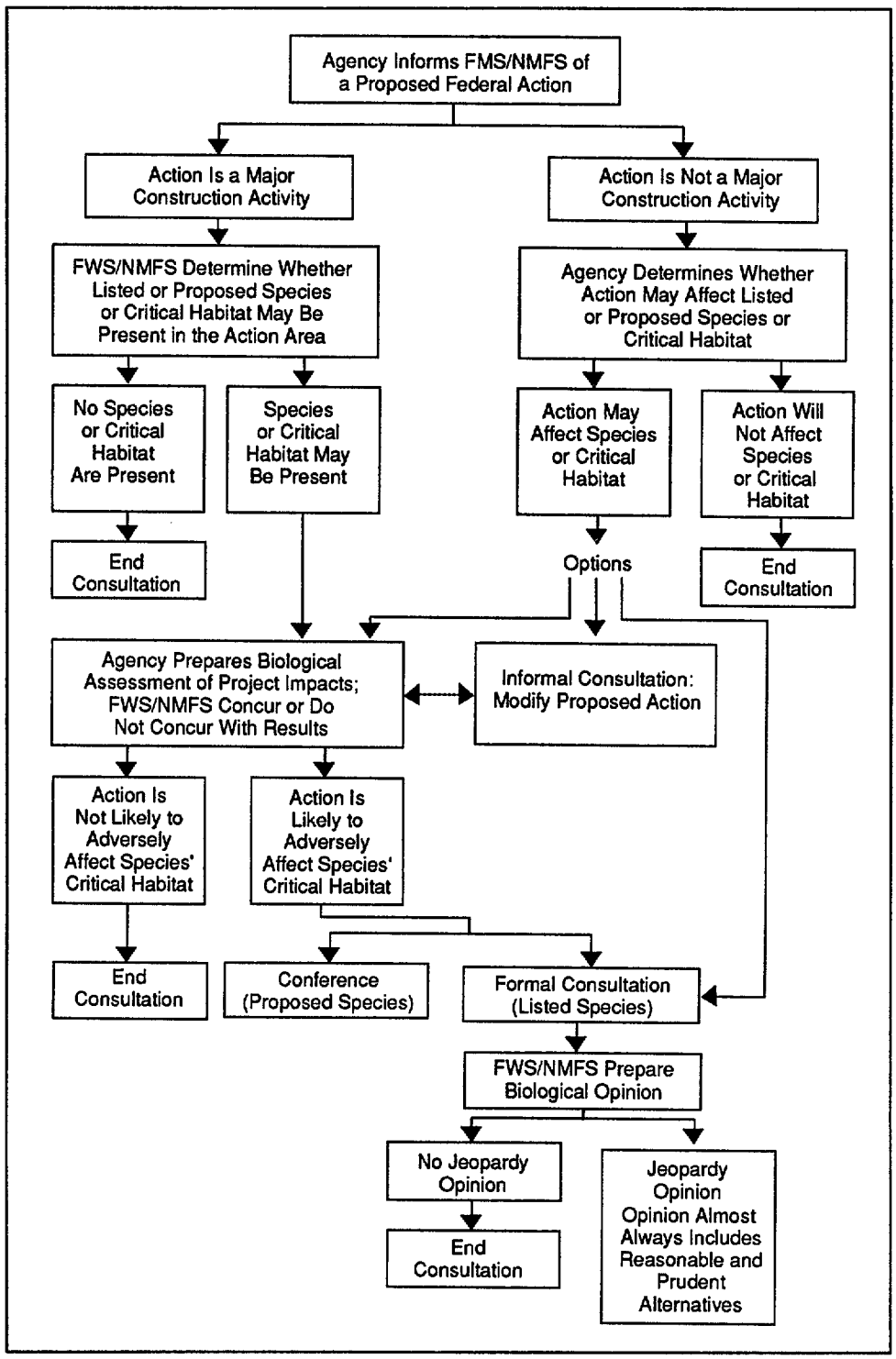
The Consultation Process

- Section 7 of the ESA requires that all federal agencies ensure that their actions are not likely to jeopardize the continued existence of listed species or adversely modify critical habitat. In fulfilling this requirement, federal agencies must consult with FWS/NMFS when any activity they permit,

fund, or conduct could affect listed species. The goal of the consultation process is to identify and resolve conflicts between (1) the protection and enhancement of listed species and (2) proposed federal actions.

- The process usually begins with informal discussions and/or correspondence between the federal agency and FWS/NMFS (called "informal consultation") designed to assist the federal agency in determining whether further formal consultation is required. FWS/NMFS may suggest project modifications that would avoid adverse impacts to listed species or critical habitat.
- Federal agencies proceed to formal consultation if their actions may affect listed species or their habitat. However, the agencies need not formally consult if FWS/NMFS have confirmed, during informal consultation, that the proposed action is not likely to adversely affect listed species or their habitat.
- The ESA establishes a time frame of 90 days for the completion of formal consultation, unless FWS/NMFS and the federal agency mutually agree to an extension, with the applicant's consent.
- The ESA requires that FWS/NMFS issue a "biological opinion" within 45 days of the conclusion of formal consultation that reviews the potential effects of the proposed action on listed species and/or critical habitat. FWS/NMFS must base the opinion on the best available biological information.
- FWS/NMFS issue a "no jeopardy" biological opinion if they find that the proposed action is not likely to jeopardize the continued existence of listed species or adversely modify their habitat.
- If FWS/NMFS find that the action would appreciably reduce the likelihood of the species' survival and recovery, they issue a "jeopardy" biological opinion. Jeopardy opinions can include reasonable and prudent alternatives that define modifications to the agency's proposed action that enable it to continue and still be consistent with ESA's requirements for protecting species.
- Following the issuance of the biological opinion, the federal agency determines whether it will comply with the opinion or seek an exemption from the act's requirements.

Figure 3.3: The Consultation Process



The Recovery Process

- The ESA requires that FWS/NMFS develop and implement recovery plans for all species they list as endangered or threatened, unless such a plan would not benefit the species. A recovery plan identifies, justifies, and schedules the research and management actions necessary to reverse the decline of a species and ensure its long-term survival.
- Recovery plans also establish listed species' population levels and/or the habitat maintenance and enhancement goals that determine whether the species has recovered. The main goal of recovery plans is to restore species so that they can live as viable self-sustaining components of their ecosystems. When this goal is met, FWS/NMFS may take steps to delist the species.
- The ESA does not specify time frames for recovery plan formation and implementation. However, FWS has established a goal of composing draft recovery plans within 1 year and approved plans within 2-1/2 years of a species' listing.
- FWS/NMFS solicit comments from state and federal agencies, experts, and the interested public on draft recovery plans during a formal public comment period announced in the Federal Register.
- Within FWS, regional directors are responsible for approving and implementing recovery plans for species that occur in their regions. FWS designates a lead region to coordinate recovery activities for species which occur in more than one region. Within NMFS, the Assistant Administrator for Fisheries approves recovery plans, while the Office of Protected Resources and the appropriate NMFS regional office(s) coordinate recovery plan implementation.
- FWS/NMFS periodically review approved recovery plans to determine if updates or revisions are needed.
- The ESA requires that FWS/NMFS monitor, for not less than 5 years, the status of species which have recovered and been delisted. FWS/NMFS must relist any species which becomes endangered or threatened again.

The Habitat Conservation Planning Process and Incidental Take Permits

- The ESA generally prohibits any person from taking a species listed as endangered or threatened. Taking is defined, in part, as the harming or harassment of a listed species and under FWS guidelines may include the destruction of the species' habitat.
- The Congress amended the ESA in 1982, establishing a process whereby FWS/NMFS may issue permits that allow private individuals to incidentally take listed species.
- Permit applicants are required to institute appropriate conservation measures for habitat maintenance, enhancement, and protection. These

conservation measures are defined in a habitat conservation plan, which is a mandatory component of any incidental take permit.

- FWS/NMFS publish a notice in the Federal Register soliciting comments from interested parties on each application for a permit and its accompanying habitat conservation plan.
- The Office of Management Authority at FWS and the Assistant Administrator for Fisheries at NMFS are responsible for reviewing and approving incidental take permit applications.
- The ESA prohibits FWS/NMFS from issuing a permit if doing so would appreciably reduce the likelihood of the survival and recovery of the species in the wild.
- The incidental taking of a listed species resulting from federal agency actions may also be allowed under the ESA. In such cases, a statement determining the amount or extent of anticipated taking would accompany the biological opinion issued by FWS/NMFS.

Overview of FWS and NMFS Actions to Implement ESA Requirements Through Fiscal Year 1991

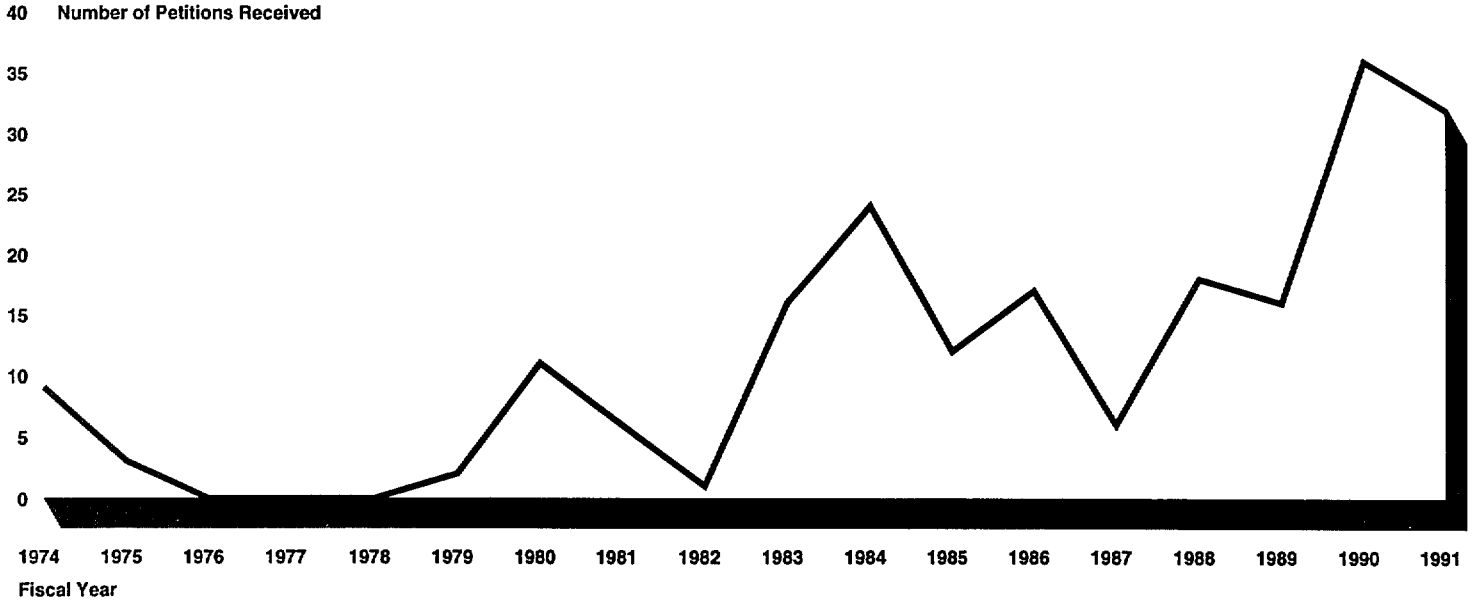
Highlights

- Through fiscal year 1991, FWS/NMFS had received over 200 petitions for listing endangered species.
- Subsequent agency review had found that ESA listing may be warranted for 65 percent of the petitioned species.
- FWS had determined that protection for 114 species was warranted but precluded because of the need for FWS action to protect other species or collect additional data.
- FWS and, to a lesser extent, NMFS had not always been timely in meeting deadlines established at various points during the petition and listing processes.
- Over 650 domestic species had been placed on the endangered species list; FWS is responsible for over 95 percent of these species.
- Most FWS endangered species activity has been concentrated in two areas of the country; the far West and the Southeast.
- Critical habitat had been designated for less than 20 percent of listed species.
- Almost 90 percent of all consultations between FWS/NMFS and federal agencies over proposed federal actions in fiscal years 1987 through 1991 were resolved informally.
- Over 90 percent of the formal consultations over proposed federal actions concluded that these actions would not harm listed species.
- Of the less than 10 percent of the formal consultations which concluded that a proposed action would likely jeopardize a species, almost 90 percent provided reasonable but prudent alternatives that would allow the project to proceed.
- FWS/NMFS had made slow progress but were paying greater attention to recovery plan development; plans had been approved for over 60 percent of listed species.
- Only 20 permits to incidentally take listed species had been requested since the ESA was amended in 1982; only 1 permit had been denied.
- Exemptions to the ESA have been sought six times; only one exemption had been granted, and one other was still under review.
- Sixteen species had been taken off the endangered species list because of recovery or extinction, or because the original data were in error.
- Beyond the 651 species that had been listed, about 600 others were recognized by FWS as being vulnerable enough to support listing proposals.

Data on Extent and Timeliness of Petition Activity

- FWS/NMFS had received a total of 209 petitions to list domestic species as endangered or threatened since the ESA's inception,[1] as shown in figure 4.1. Many petitions address more than one species.
- FWS had received 190 petitions; NMFS, 19.
- The number of petitions annually received by FWS/NMFS had varied substantially over the years but had been generally increasing since 1987.

Figure 4.1: Number of Listing Petitions Received Annually by FWS/NMFS, Through Fiscal Year 1991



Total number of petitions, 209.

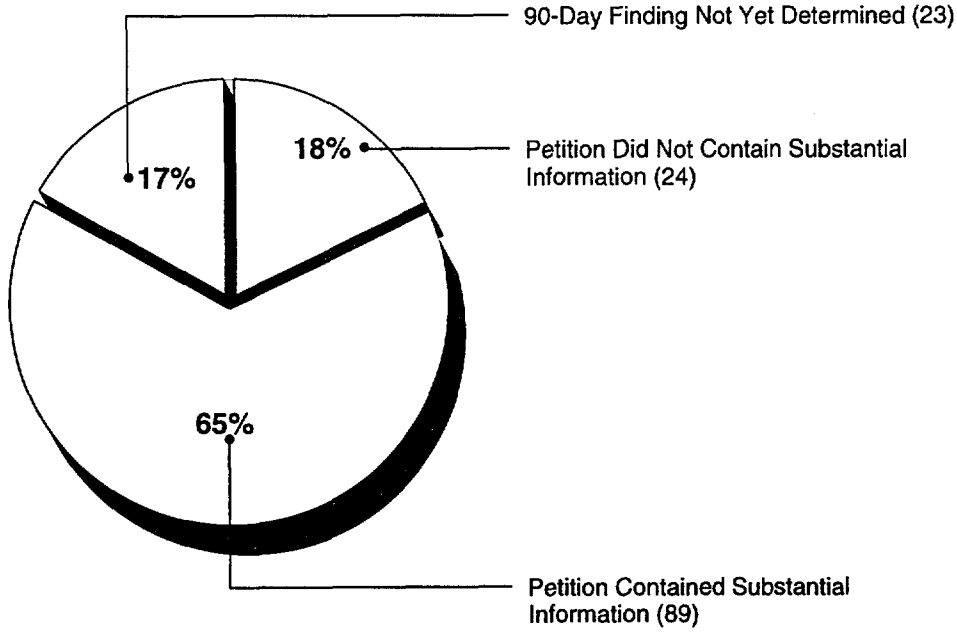
Source: GAO analysis of FWS/NMFS data bases.

- FWS/NMFS examine petitions to determine if they contain sufficient biological data to support the protection of a given species. This initial determination is required within 90 days.

[1]This total does not include approximately 35 petitions that FWS/NMFS received to delist a species, designate critical habitat, or reclassify a species.

- As shown in figure 4.2, FWS/NMFS had found that 65 percent of the petitions provided adequate biological information to indicate that the species' status should be looked at more closely and that ESA listing may be warranted.[2]

Figure 4.2: Results of FWS/NMFS 90-Day Findings, Through Fiscal Year 1991



Total number of 90-day findings required, 136.

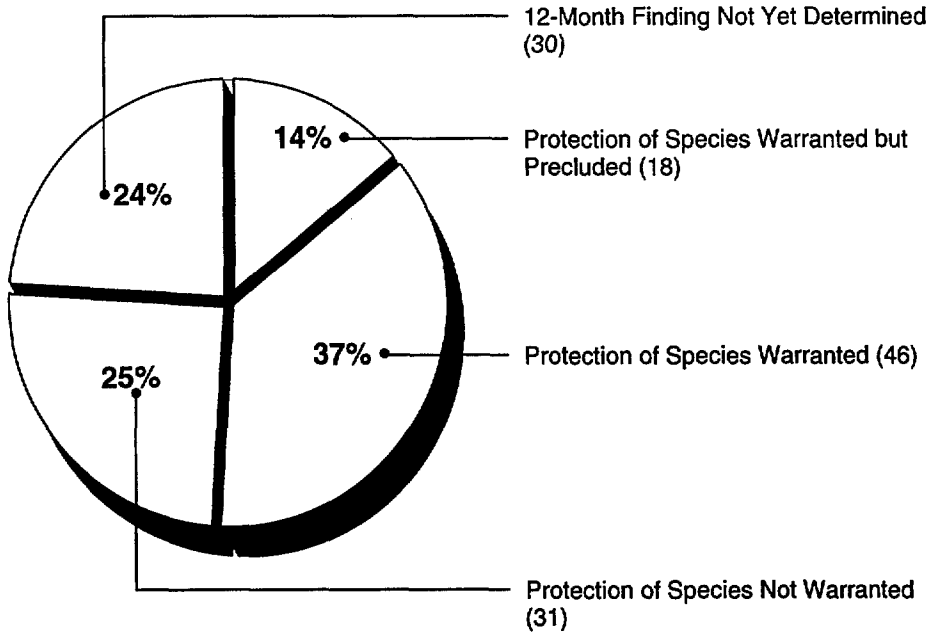
Source: GAO analysis of FWS/NMFS data bases.

- Once a petition has been found to contain adequate biological information, FWS/NMFS conduct further reviews to determine if the petitioned action is warranted. This determination must be made within 12 months of receiving the petition.

[2]The number of 90-day findings (136) differs from the number of petitions received (209) for several reasons, including the following: the 90-day finding total does not include petitions that were not eligible under the ESA, duplicates of petitions received earlier for the same species, and petitions that were withdrawn or referred from FWS to NMFS. Additionally, FWS/NMFS have received petitions since the ESA's inception but have only been required to make 90-day findings since the 1982 ESA amendments.

- As shown in figure 4.3, the agencies concluded that over half of these petitions warranted protection under the ESA.[3]

Figure 4.3: Results of FWS/NMFS 12-Month Findings, Through Fiscal Year 1991



Total number of 12-month findings required, 125.

Source: GAO analysis of FWS/NMFS data bases.

Use of the Warranted but Precluded Category

- As indicated in figure 4.3, 14 percent of FWS' 12-month findings determined that protection was warranted but precluded. Under the ESA, FWS/NMFS may use this category for petitioned species meriting protection when (1) pending proposals take precedence and/or additional data are needed to make a warranted finding and (2) expeditious progress is being made to list qualified species. According to agency officials, the warranted but precluded category is often used when additional data are needed to find a petitioned action warranted.
- Through fiscal year 1991, only FWS had placed species in this category.

[3]The number of 12-month findings (125) differs from the number of 90-day findings (136) primarily because only petitions found to contain adequate information receive 12-month findings and some petitions were not required to receive 90-day findings because they were submitted prior to the 1982 ESA amendments.

- When designated as warranted but precluded, species do not receive formal protection under the ESA.
- Since the ESA was amended in 1982 to authorize use of a warranted but precluded designation, 114 species had been placed in this category for 2 or more years.[4] (See table 4.1.) Of these, 19 were ultimately declared endangered or threatened, while 16 were found not to warrant ESA protection. An additional 77 species are still awaiting FWS action. The outcome for two species is unknown.

Table 4.1: FWS Use of the Warranted but Precluded Category, Through Fiscal Year 1991

Number of years in the warranted but precluded category	Number of species
2	9
3	15
4	3
5	17
6	9
7	3
8	56
Unknown	2
	114

Source: GAO analysis of FWS data base.

Timeliness of Petition Actions

- Of the 115 90-day findings FWS was responsible for acting on (6 were not due at the end of fiscal year 1991), 26 percent were issued on time or early, and another 57 percent were late by less than 4 months. Seventeen percent of the findings were over 4 months late, and 9 percent were 6 or more months late.
- NMFS has been required to make fourteen 90-day findings. Of these, only two were more than 2 months late.
- Of the 105 12-month findings FWS was responsible for acting on (an additional 10 were not due at the end of fiscal year 1991 or the due date was missing), 33 percent were issued on time or early, and another 45 percent were late by less than 6 months. Twenty-two percent of the findings were over 6 months late, and 18 percent were over 1 year late.
- NMFS has made ten 12-month findings. Of these, only two were more than 1 month late.

[4]This does not include a 1975 Smithsonian Institution petition to list over 1,700 plant species; at the end of fiscal year 1991, over 1,500 of these plants were in the warranted but precluded category.

- FWS and NMFS officials cite several factors as contributing to the number of missed deadlines: (1) resource constraints, (2) the need for further study and additional biological data, and (3) higher priority activities.

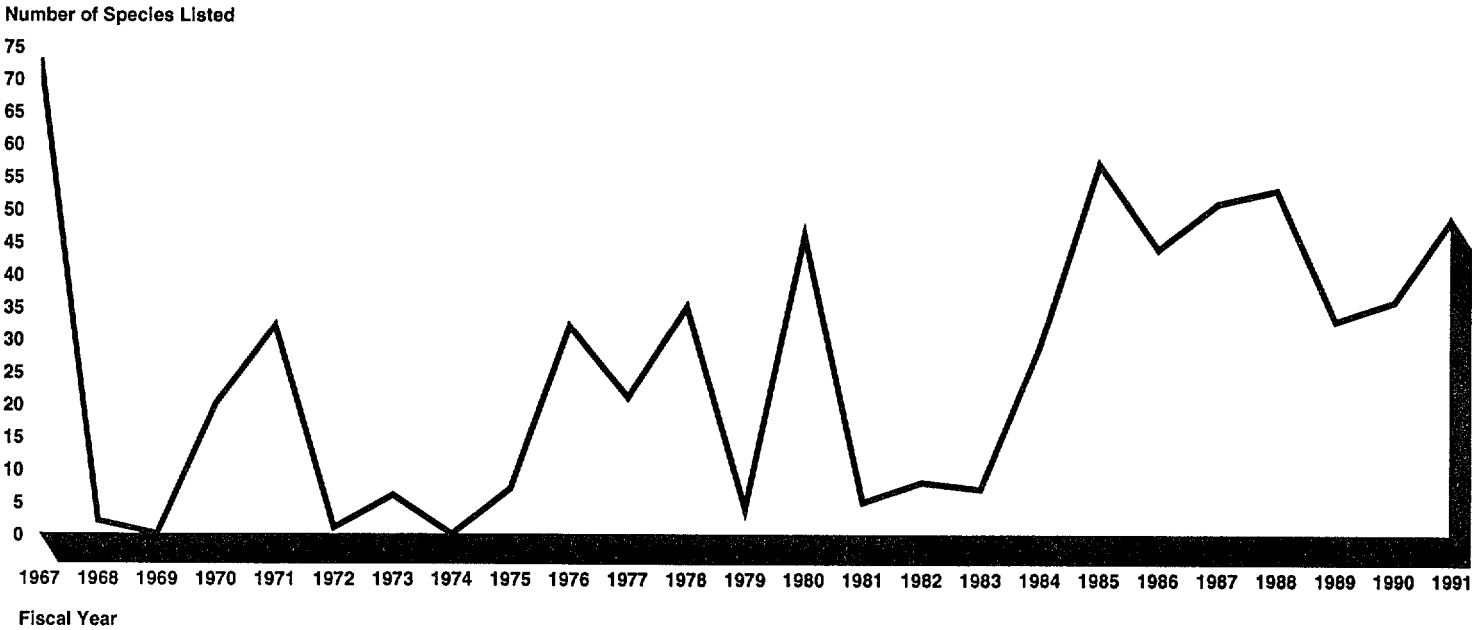
Data on Extent and Timeliness of Listing and Critical Habitat Designation Activity

Number of Endangered/Threatened Species

- As shown in figure 4.4, 651 domestic species had been listed as endangered or threatened. Of these, 134 were originally listed under previous endangered species legislation that was made part of the ESA.
- At the end of fiscal year 1991, FWS was responsible for 638 of the listed species; NMFS was responsible for 19. The agencies shared jurisdiction over six species of sea turtles.
- Species can be listed as the result of either the petition process or as the result of independent FWS/NMFS action. According to an FWS official, the majority of listed species originated through the petition process.[5]
- The number of species annually listed by FWS/NMFS has varied widely over time, ranging from 33 to 53 during fiscal years 1987 through 1991.

[5]This is so because although FWS/NMFS have received only 209 listing petitions, as noted earlier, many petitions address more than one species. For example, in 1975 FWS received a petition from the Smithsonian Institution to list over 1,700 plant species.

Figure 4.4: Annual Number of Species Listed by FWS/NMFS, Through Fiscal Year 1991

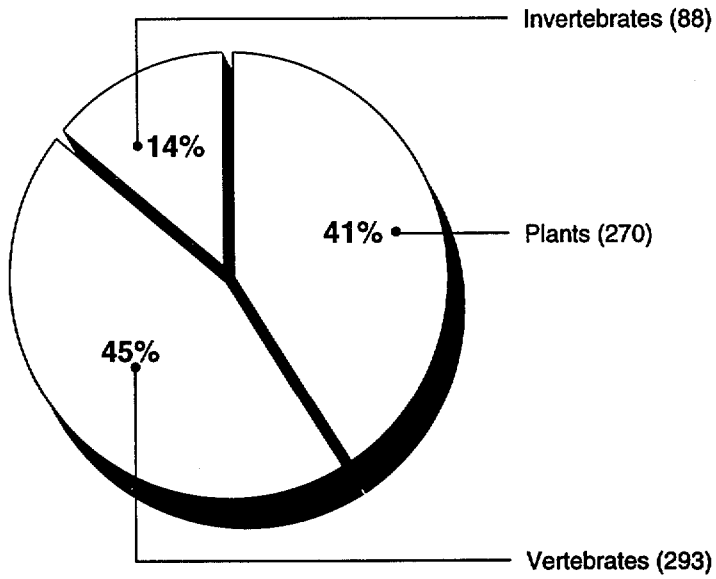


Total number of listed species, 651.

Source: GAO analysis of FWS/NMFS data bases.

- Figure 4.5 demonstrates that approximately 60 percent of the listed species are animals, while about 40 percent are plants.
- Of the listed species that are animals, most are vertebrates; about one-quarter are invertebrates.

Figure 4.5: Breakdown of Listed Species by Biological Classification

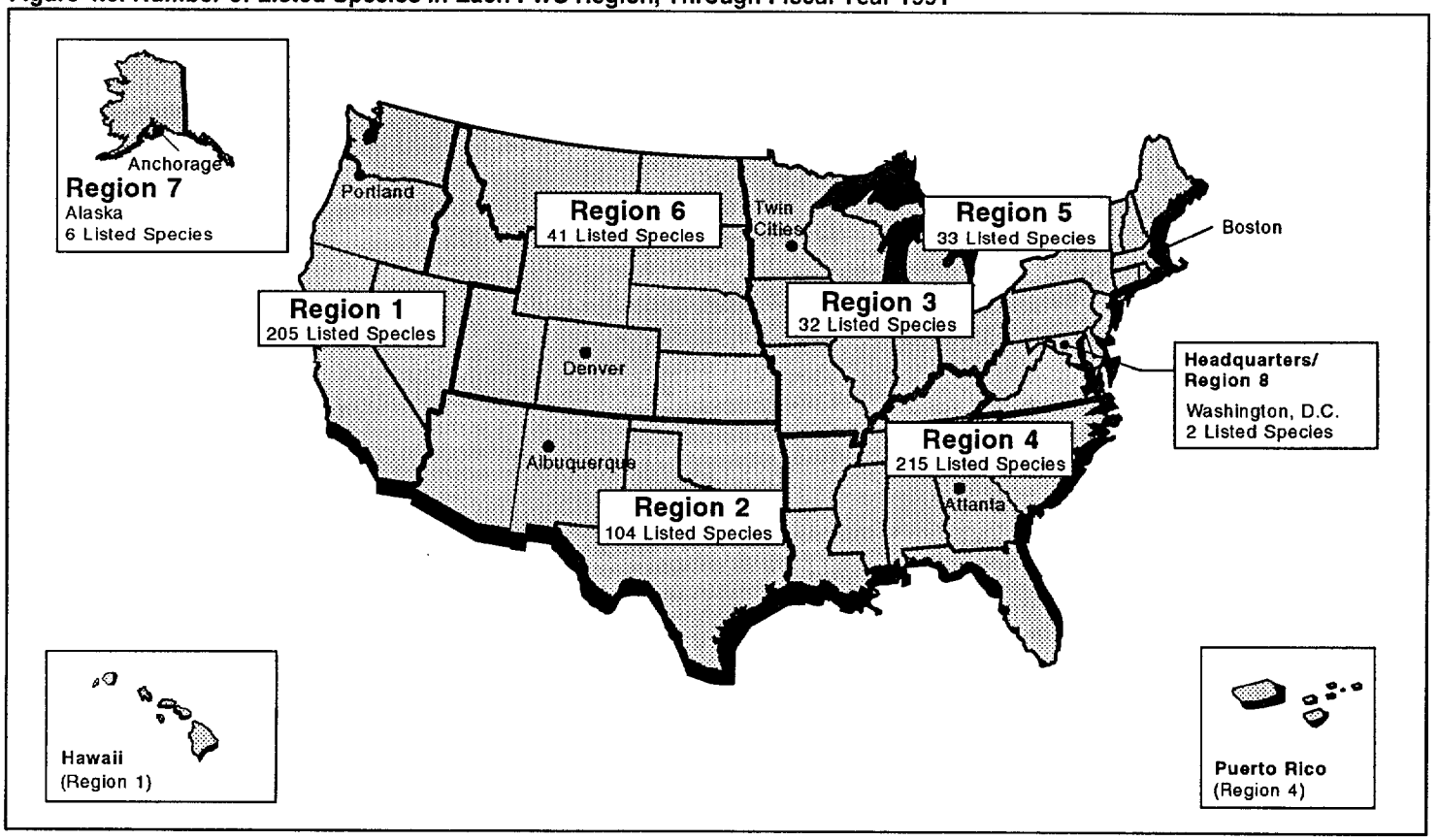


Total number of listed species, 651.

Source: GAO analysis of FWS/NMFS data bases.

- The majority of FWS' endangered species activity has been concentrated in two parts of the country—the far West (Region 1) and the Southeast (Region 4). (See fig. 4.6.)

Figure 4.6: Number of Listed Species in Each FWS Region, Through Fiscal Year 1991

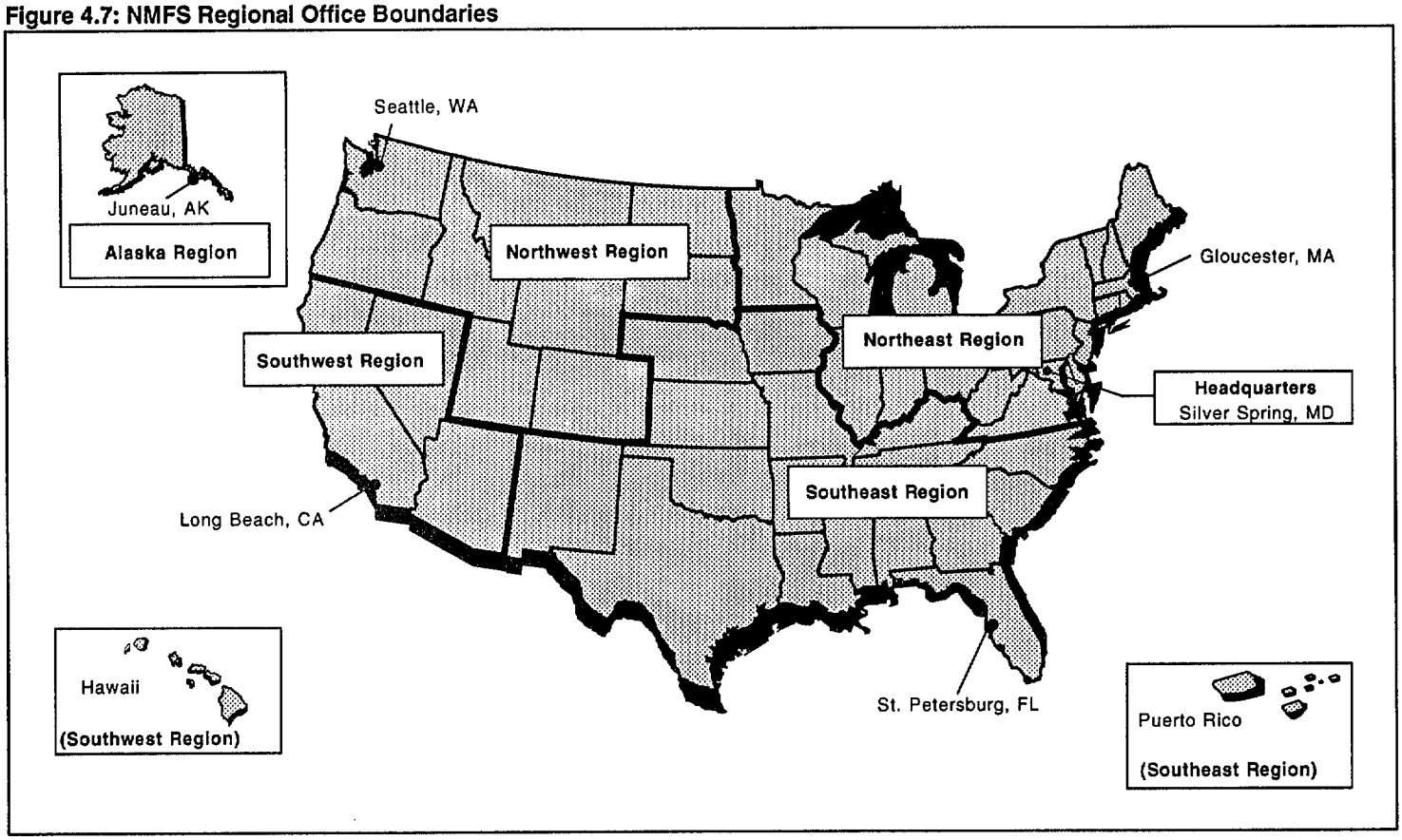


Note: The total number of listed species under FWS' jurisdiction is 638.

Source: FWS.

- All of NMFS' listing decisions are made at NMFS headquarters; its five regional offices provide input into decisions affecting species found within those regional offices' jurisdiction. (See fig. 4.7.)

Figure 4.7: NMFS Regional Office Boundaries



Note: The total number of listed species under NMFS' jurisdiction is 19.

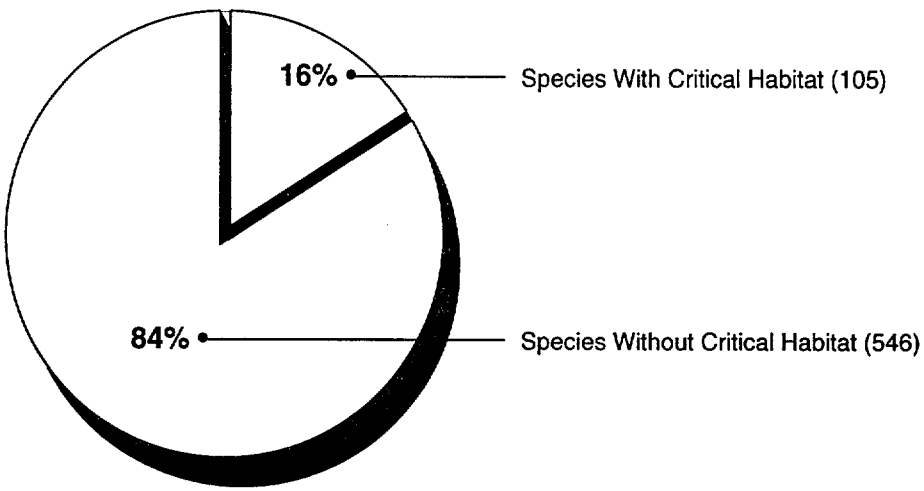
Source: NMFS.

Critical Habitat Designation

- The ESA requires FWS/NMFS to designate critical habitat to the maximum extent prudent at the time they list a species (unless it would not benefit the species or if insufficient data exist on which to base the designation).
- FWS/NMFS had designated critical habitat for few species, as depicted in figure 4.8.
- The reasons cited by FWS/NMFS officials on why so many species had not had critical habitat designated included: (1) critical habitat designations do not necessarily provide much benefit for a species; (2) compared with other ESA requirements, designating critical habitat is considered a low priority; (3) additional biological and economic data necessary to make sound critical habitat determinations are difficult to obtain; and (4) critical

habitat designations may expose species to collection or illegal taking by publicly identifying where they are located.

Figure 4.8: Number of Species With Critical Habitat Designation, Through Fiscal Year 1991



Total number of listed species, 651.

Source: GAO analysis of FWS/NMFS data bases.

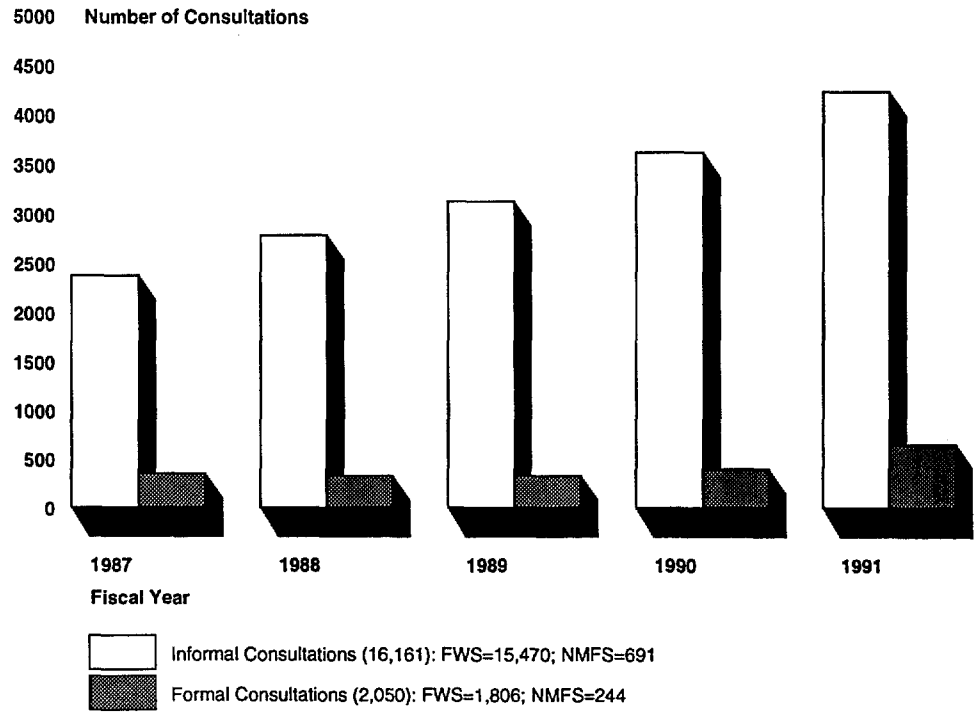
Timeliness of Final Rule Makings

- Of the 368 final rules that FWS was responsible for acting on since the 1982 amendments which established the 1-year time frame, 63 percent were issued within 1 year and another 28 percent were late by less than 6 months. Thirty-four (9 percent) were issued over 6 months late, and 15 (4 percent) were issued over 1 year late.
- Since 1980, when NMFS began tracking data on rule-making timeliness, only three rules to list a species as endangered or threatened had been issued. None had taken more than 1 year to become final. The final rules for an additional four species were not due during fiscal year 1991.
- Only 16 percent of the listed species have designated critical habitat. However, of the 34 final rules that were issued over 6 months late, 59 percent included the designation of critical habitat.
- FWS and NMFS officials cited several factors as contributing to missed deadlines: (1) resource constraints, (2) the need for further study and additional biological data, and (3) higher priority activities.

Data on Consultation Activity

- Thousands of consultations between FWS/NMFS and federal agencies over proposed federal actions had been conducted annually over the past 5 fiscal years, as seen in figure 4.9.
- The vast majority of these consultations had been concluded at the informal level; a much less burdensome process than formal consultations. In fact, 89 percent of all consultations between FWS/NMFS and federal agencies over proposed federal actions in fiscal years 1987 through 1991 were resolved informally.

Figure 4.9: Number of Informal and Formal Consultations, Fiscal Years 1987 Through 1991



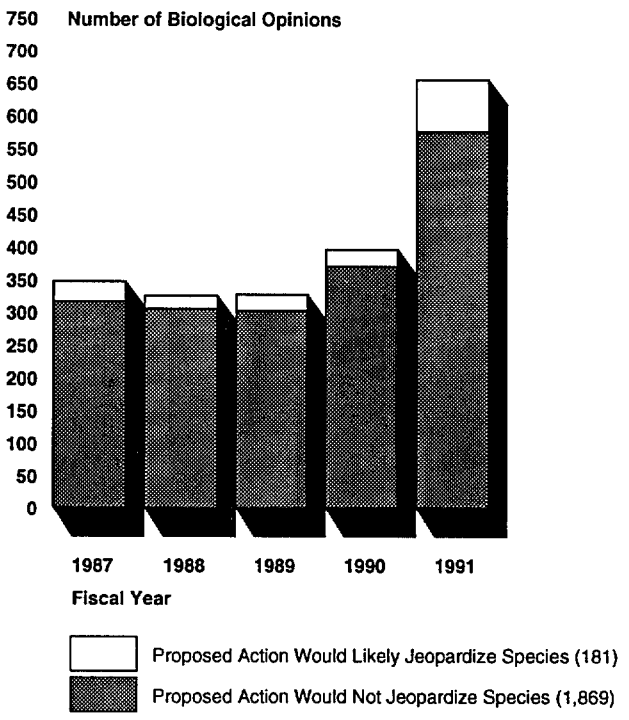
Note: The total number of informal consultations does not include responses from one FWS region. This region aggregated various types of informal consultations, including species lists and technical assistance, that we were unable to separate out. However, the relationship between informal and formal consultations remains the same even if these aggregated numbers are included.

- Formal consultations generally require the issuance of a biological opinion by FWS/NMFS that states whether a proposed federal action, such as a water

development project or pesticide registration, would likely jeopardize a listed species.

- As shown in figure 4.10, over 90 percent of the biological opinions issued by FWS/NMFS during the past 5 fiscal years have found that the proposed action would not likely place a listed species in jeopardy. Of the 2,050 formal consultations, only 181 resulted in a jeopardy opinion. (A 1989 biological opinion issued to the Environmental Protection Agency covering over 100 pesticides and their effects on 165 listed species that resulted in 152 jeopardy decisions is not included in this count because of its unusual nature.)
- FWS regional officials attributed a substantial portion of the increase in fiscal year 1991 biological opinions to consultations involving individual timber sales on federal lands in the Northwest.

Figure 4.10: Results of FWS/NMFS Biological Opinions, Fiscal Years 1987 Through 1991

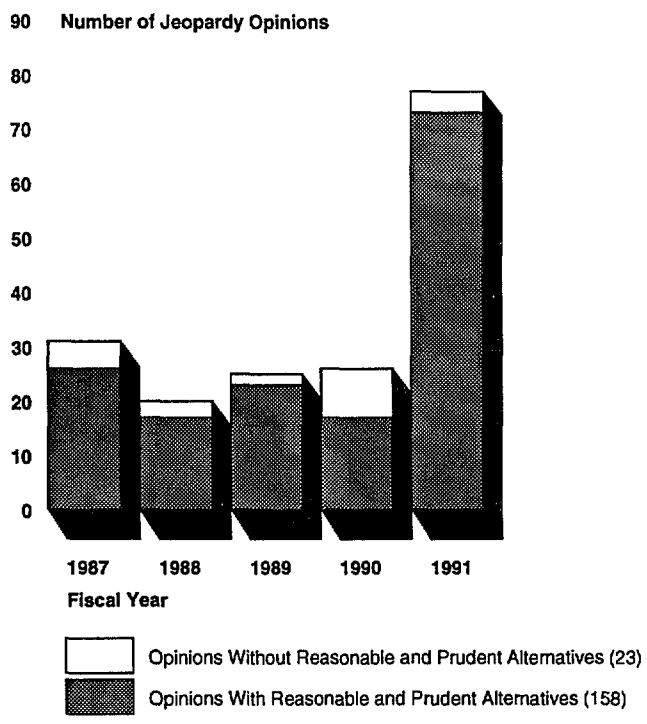


- As depicted in figure 4.11, almost 90 percent of FWS'/NMFS' biological opinions concluding that a proposed action would likely place a listed

species in jeopardy provided reasonable and prudent alternatives that would allow the action to proceed.

- This finding is consistent with the conclusion in our 1987 report, Endangered Species: Limited Effect of Consultation Requirements on Western Water Projects (GAO/RCED-87-78, Mar. 26, 1987), which stated that the ESA's consultation requirements had, on the whole, had little impact on western water development. Of the 3,200 consultations reviewed, none had caused a project to be terminated, and only 68 had any impact on the project. These consultations had a varying but normally limited impact on the projects' timing, scope, and cost.
- Alternative actions which have allowed proposed actions to proceed have included: (1) modifications to the project's design, (2) adjustment in site location, and (3) emission restrictions.

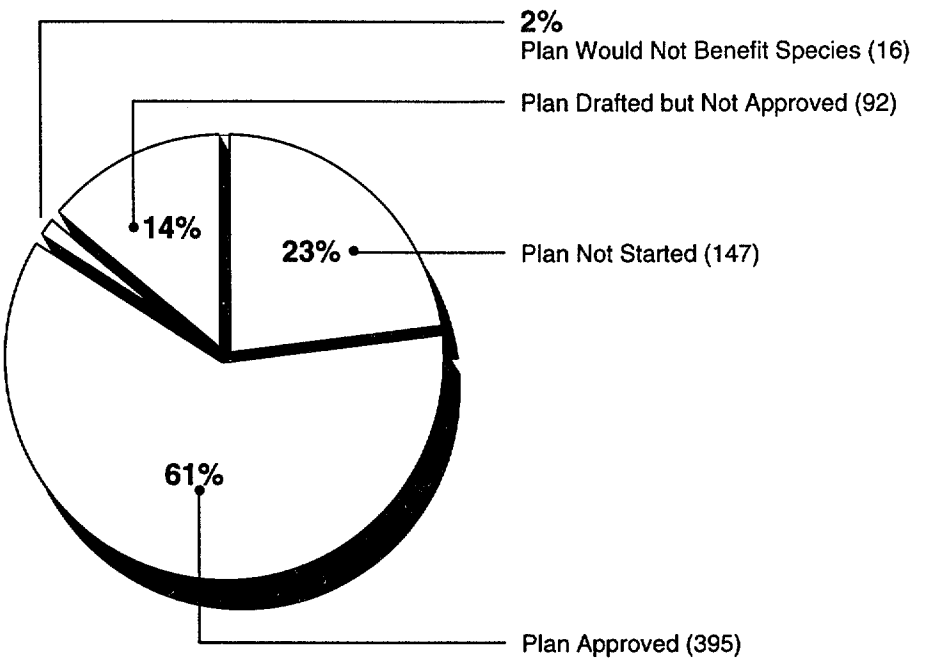
Figure 4.11: Number of Jeopardy Opinions With Reasonable and Prudent Alternatives, Fiscal Years 1987 Through 1991



Data on Extent and Timeliness of Recovery Plan Development Activity

- Amendments to the ESA in 1978 required FWS/NMFS to develop and implement recovery plans for listed species, unless a plan would not benefit the species.
- FWS/NMFS had approved plans for over 60 percent of all listed species, as shown in figure 4.12. For those species that had been listed for more than 3 years, 70 percent had approved recovery plans (FWS has established a goal of approving recovery plans within 2-1/2 years of a species' listing.)
- The number of recovery plans does not necessarily equal the number of listed species because in some cases, recovery plans may cover more than one species but in other cases, a species may be covered in more than one recovery plan. For example, two recovery plans are under way for the brown pelican—one for the California brown pelican and the other for the eastern brown pelican. In addition, NMFS is developing separate recovery plans for species of sea turtles found in both the Atlantic and Pacific oceans.

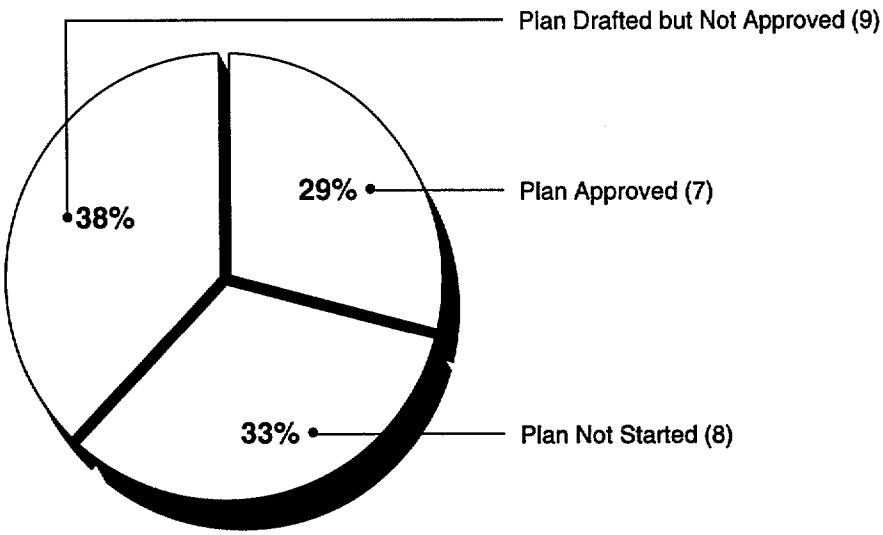
Figure 4.12: Status of FWS/NMFS Recovery Plan Development Efforts, Through Fiscal Year 1991



Total number of recovery plans, 650.

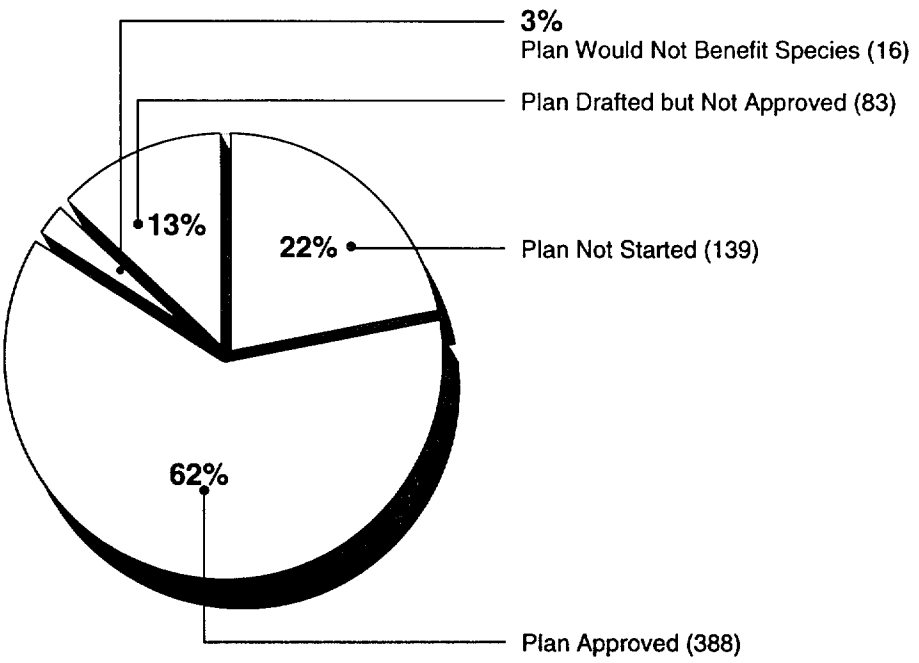
- FWS has displayed substantially better performance in approving recovery plans than NMFS. As shown in figures 4.13 and 4.14, FWS had approved 62 percent of 626 recovery plans that it is responsible for, while NMFS had approved 29 percent of its 24 recovery plans.

Figure 4.13: FWS Recovery Plan Development Efforts, Through Fiscal Year 1991



Number of recovery plans by NMFS, 24.

Figure 4.14: NMFS Recovery Plan Development Efforts, Through Fiscal Year 1991



Number of recovery plans by FWS, 626.

Timeliness of Recovery Plan Development

- FWS/NMFS progress toward recovery plan development had been slow, but agency officials stated that recovery planning had been receiving higher priority in recent years. Also, FWS had received increased funding since fiscal year 1988 for recovery purposes.
- Of the almost 400 species with approved plans under FWS jurisdiction, 263, or over 65 percent, took 3 years or more from the date of listing (or Nov. 1978, when recovery plans were first required, whichever came later) for plan approval, as depicted in table 4.2.

Table 4.2: Species Listed by FWS for 3 or More Years With Approved Recovery Plans, Through Fiscal Year 1991

Number of years listed without a plan	Number of species
3	56
4	68
5	83
6	32
7	13
8 or more	11
	263

- Of the more than 200 species without an approved recovery plan from FWS, over half had been listed for 3 or more years, as shown in table 4.3. Plans for these species either had not been started or were still in draft form.

Table 4.3: Species Listed by FWS for 3 or More Years Without Approved Recovery Plans, Through Fiscal Year 1991

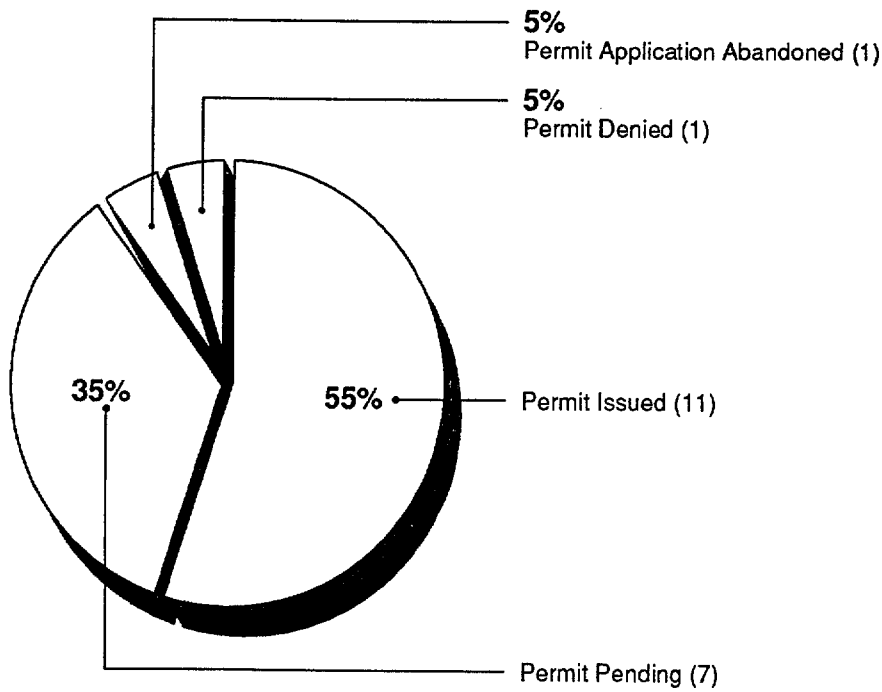
Number of years listed without a plan	Number of species
3	33
4	20
5	20
6	20
7	10
8 or more	22
	125

- Of the 24 species that NMFS is responsible for developing recovery plans for, 15 had been listed for 6 or more years and still did not have approved plans. Of the seven species with approved plans, all took over 6 years from the date the species was listed for plan completion. The remaining two species had been recently listed and were awaiting plan development.
- FWS/NMFS officials cited several factors as contributing to why it has taken so long to develop and implement recovery plans for listed species, including the following: (1) other higher priority ESA activities, (2) resource constraints, and (3) the need for further study and additional biological data.

Data on Incidental Take Permits

- Amendments to the ESA in 1982 authorized FWS or NMFS to permit the incidental taking of listed species if appropriate conservation measures are taken, including the development of a habitat conservation plan.
- FWS had received 20 incidental take permit requests; as depicted in figure 4.15, only 1 application had been denied.
- As of the end of fiscal year 1991, NMFS had received no applications for incidental take permits, according to agency officials.

Figure 4.15: Number of Incidental Take Permits Issued by FWS, Through Fiscal Year 1991



Total number of incidental take permit applications, 20.

Source: FWS.

Use of Exemption Process

- The exemption process was created as part of the ESA's 1978 amendments to determine whether the economic benefits of a proposed federal action outweigh the benefits of protecting a species.
- This process, along with the designation of critical habitat, is the principal way in which economic factors are intended to be taken into consideration under the act.
- A cabinet-level Endangered Species Committee reviews all applications for exemptions. This Committee comprises the Secretary of the Interior (who chairs the Committee), the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Council of Economic Advisors, the Administrator of the Environmental Protection Agency, the Administrator of the National Oceanic and Atmospheric Administration, and an individual from each affected state.
- An exemption to the ESA has been sought six times. Of those, the Committee has considered two—Graylocks Dam and Reservoir (whooping

crane) and Tellico Dam (snail darter)—and is currently considering Pacific Northwest timber sales (spotted owl). The process was halted three other times by the party seeking the exemption before the Committee actually met to consider it.

- The Committee approved an exemption for the Graylocks Dam and Reservoir but did not grant an exemption for the Tellico Dam. The Pacific Northwest timber sales decision is expected by May 1992.

Number of Species Taken Off Endangered Species List

- Through fiscal year 1991, 16 species placed on the endangered species list had been taken off, or delisted. These species are shown in table 4.4.
- Similar to species-listing decisions, delistings must also be based on the best biological data available.
- The data must show that the species is neither endangered nor threatened because of one or more of the following reasons: (1) the species has become extinct; (2) the species has recovered to a point where protection under the ESA is no longer required; or (3) original data available when the species was listed, or the interpretation of such data, were in error.

Table 4.4: Species Delisted, Through Fiscal Year 1991

Species name	Reason for delisting
Butterfly, Bahama swallowtail	Original data in error
Cactus, purple-spined hedgehog	Original data in error
Cisco, longjaw (fish)	Extinct
Dove, Palau	Recovered
Duck, Mexican	Original data in error
Fantail, Palau (bird)	Recovered
Gambusia, Amistad (fish)	Extinct
Milk-vetch, Rydberg (plant)	Recovered
Owl, Palau	Recovered
Pupfish, Tecopa	Extinct
Pearly mussel, Sampson's	Extinct
Pelican, brown	Recovered (Southeast population)
Pike, blue	Extinct
Sparrow, dusky seaside	Extinct
Sparrow, Santa Barbara song	Extinct
Treefrog, Pine Barrens	Original data in error

Source: FWS.

Backlog of Species Meriting Protection

- Beyond the 651 species currently listed, FWS maintains a list of species that the agency is actively reviewing for possible inclusion on the endangered species list. These are known as "candidate species."
- The candidate list is divided into several different categories. According to the latest FWS published candidate lists, about 600 domestic species are on FWS' category 1 list. Category 1 species are those for which FWS has adequate information to support proposals to list them as endangered or threatened under the ESA.
- FWS had placed an average of 44 species on the endangered species list per year during the past 5 fiscal years. At this rate, it will take FWS until 2006 to address the roughly 600 candidate species, even if no additional species are determined to be in need of protection or added to the candidate species list.
- Beyond the approximately 600 species on FWS' category 1 list, FWS has identified over 3,000 category 2 species—species that may be threatened or endangered on the basis of available data. Similarly, the Nature Conservancy maintains a list containing over 5,000 domestic species that may be threatened or endangered.[6]
- FWS officials indicated that the lack of priority afforded to listing species and resource constraints were the primary reasons for their slow progress in listing more species.
- NMFS also maintains a list of candidate species identified for listing consideration. The latest candidate list identifies 34 animal and plant species. NMFS will conduct a review of the status of each candidate species to determine if the species warrants listing as threatened or endangered.

[6]The Nature Conservancy, a private nonprofit organization, maintains this list in cooperation with the National Network of State Heritage Programs, a biological and conservation network established in each state.

Major Contributors to This Briefing Report

Resources, Community, and Economic Development Division, Washington, D.C.

Bob Robinson, Assistant Director
Thomas Heck, Assignment Manager
Deborah Eichhorn, Staff Evaluator
Curtis Groves, Operations Research Analyst
Fran Featherston, Social Science Analyst
Julian King, Computer Specialist

Seattle Regional Office

Joe Gibbons, Evaluator-in-Charge
Will Garber, Staff Evaluator
Stan Stenersen, Reports Analyst