



Testimony

Before the Subcommittee on Fisheries,  
Wildlife and Water, Committee on  
Environment and Public Works, United  
States Senate

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**ENDANGERED SPECIES  
ACT**

**Successes and Challenges  
in Agency Collaboration  
and the Use of Scientific  
Information in the  
Decision Making Process**

Statement of Robin M. Nazzaro, Director  
Natural Resources and Environment



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# Highlights

Highlights of [GAO-05-732T](#), a report to the Subcommittee on Fisheries, Wildlife and Water, Committee on Environment and Public Works, United States Senate

## Why GAO Did This Study

The purpose of the Endangered Species Act is to conserve endangered and threatened species and the ecosystems upon which they depend. This law currently protects more than 1,260 animal and plant species. Within the Department of the Interior, the Fish and Wildlife Service implements and enforces the act. In addition, all federal agencies, such as the Department of Defense and the Bureau of Land Management, must ensure that their activities do not jeopardize a protected species' continued existence or adversely modify or destroy habitat that has been designated as critical to its survival.

The Endangered Species Act and its implementation can be controversial when there are conflicting uses for a natural resource as, for example, when timber on federal lands is both habitat for endangered and threatened species and a valuable commodity to be harvested. Conflicts also occur over the adequacy or interpretation of scientific information in making species protection decisions.

GAO has issued numerous reports on the implementation of the Endangered Species Act. This testimony is based primarily on four of these reports and addresses (1) collaboration among federal agencies to conserve threatened and endangered species and (2) utilization of scientific information by the Fish and Wildlife Service.

[www.gao.gov/cgi-bin/getrpt?GAO-05-732T](http://www.gao.gov/cgi-bin/getrpt?GAO-05-732T).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robin Nazzaro at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov).

## ENDANGERED SPECIES ACT

### Successes and Challenges in Agency Collaboration and the Use of Scientific Information in the Decision Making Process

#### What GAO Found

We have found that effective agency collaboration can reduce conflict over competing uses of natural resources and improve agencies' abilities to protect species while carrying out other mission-related activities. While we have noted several instances of effective interagency cooperation, we have also discovered that agencies could be doing more to work together to find effective species protections. For example, at one military facility, Air Force officials worked with the Fish and Wildlife Service and others to entice the endangered Sonoran pronghorn—a species similar in appearance to antelope—away from military training areas. As a result, the agencies were able to minimize the impact of species protections on training exercises. Previously, Air Force officials had reported that 32 percent of their live-fire missions were either cancelled or moved due to the presence of the pronghorn. However, we have found that there are obstacles to further agency collaboration that need to be addressed.

We have found that the Fish and Wildlife Service generally used the best available information in key endangered species decisions, although the agency was not always integrating new research into ongoing species management decisions. For example, since the Bureau of Land Management eliminated sheep grazing on more than 800,000 acres in tortoise habitat in California, neither the Bureau or the Fish and Wildlife Service had ensured that necessary research was conducted to assess whether this action had benefited the tortoise. Unless managers link research findings to recovery actions, they cannot develop a scientific basis to make decisions about whether land use restrictions—such as limiting grazing or other activities in tortoise habitat—should remain unchanged, be strengthened, or whether alternative actions are more appropriate. Developing such information is important as some of the restrictions imposed to protect the tortoise have been controversial because of their broad impact and some affected by the restrictions have questioned whether they are necessary for the tortoise's recovery.

#### Agencies Must Balance the Use of Natural Resources with the Protection of Species



Sources: GAO, Nova Development Corporation, U.S. Army Corps of Engineers.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our work related to the Endangered Species Act. As you know, the purpose of the act is to conserve endangered and threatened species and the ecosystems upon which they depend. This law currently protects more than 1,260 animal and plant species. Under the act, no one may “take” a protected species, which is defined as harming, harassing, pursuing, shooting, wounding, killing, trapping, hunting, capturing, or collecting, or attempting any such conduct. In addition, federal agencies and federally authorized activities may not jeopardize a species’ continued existence or adversely modify habitat deemed critical for a species’ survival. The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS)—collectively referred to as the Services—are responsible for working with other federal agencies, tribal, state, and local governments, private companies, and citizens to ensure that species are appropriately protected. In addition, all federal agencies are directed by the act to utilize their authorities to conserve threatened and endangered species.

The act requires FWS and NMFS to list as endangered any species facing extinction and to list as threatened any species likely to become endangered in the foreseeable future. When a species is listed, the act also generally requires the agencies to designate critical habitat—habitat essential to a species’ conservation—because the loss of habitat is often the principal cause of species decline. FWS and NMFS are also required to develop a plan to recover the listed species to the point that they are no longer endangered or threatened, an achievement marked by their removal, or delisting, from the list of endangered or threatened species.

The act’s success in protecting species depends on one’s point of view. Some believe it has been successful because in the face of chronic underfunding only 9 species have gone extinct since the act’s inception, others say it has been a failure because only 9 species have been recovered. Advocates on both sides of the argument would likely agree, however, that the Endangered Species Act and its implementation have served as lightning rods in the ongoing national debate concerning the tradeoffs that must often be

made between economic, social, and environmental values. The tradeoffs required to implement the act were vividly apparent in 1978, when the Supreme Court ruled that construction of the Tellico Dam could not be completed because doing so would jeopardize the continued existence of the endangered snail darter—a species of fish.<sup>1</sup> The dam, which has since been completed,<sup>2</sup> is located on the Little Tennessee River and provides flood control, hydropower, and water supply. In this case, the Court ruled that the Endangered Species Act explicitly prohibits activities that would jeopardize the continued existence of an endangered species or result in the destruction or modification of its habitat, and stated that the act represents a congressional decision to require agencies to give greater priority to the protection of endangered species than to their other missions. Under the Court’s decision, federal agencies generally are prohibited from authorizing, funding, or carrying out actions, such as dam construction, permitting timber harvesting and livestock grazing, and wetland dredging, if doing so would jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify their critical habitats.

The legacy of this decision continues to this day as federal agencies struggle to balance their obligation to protect species and carry out other mission-related activities that often involve ensuring industries, ranchers, farmers, recreational enthusiasts, tourists, and others, appropriate access to and use of the very natural resources on which those species depend. One prominent recent example is the federally-operated Klamath Project—dams, reservoirs, and associated facilities—that sits on the California-Oregon border. Here, under extreme drought conditions, several federal agencies—including the Services and the Bureau of Reclamation—are trying to balance the water needs of irrigators and others who receive water from the project, and threatened and endangered fish, which must have sufficient water to survive. In 2002, thousands of fish died while water was delivered for agricultural irrigation; the prior year, farmers experienced crop losses while water was used to maintain stream flows for fish.<sup>3</sup> Another prominent

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<sup>1</sup> *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978).

<sup>2</sup> Legislation, passed in 1979, allowed for completion of the Tellico Dam.

<sup>3</sup> For a more comprehensive assessment of the status of the nation’s freshwater supply see U.S. General Accounting Office, *Freshwater Supply: States’ Views of How Federal Agencies Could Help Them Meet the Challenges of Expected Shortages*, GAO-03-514 (Washington, D.C.: July 9, 2003).

example involved the threatened Northern spotted owl. In the early 1990s, timber sales on federal lands that are habitat for the Northern spotted owl were brought to a virtual halt by federal court injunctions. In various rulings, the federal courts enjoined the Forest Service and Bureau of Land Management from selling timber until they addressed issues related to protecting the habitat of the owl.<sup>4</sup>

More recently, controversies surrounding the act have centered on the adequacy of the scientific information used to make decisions about whether and how to list species. Just in the past few months sparks have flown in response to scientific decisions concerning the Florida panther, the Preble's meadow jumping mouse, and the greater sage grouse. In the first case, FWS conceded weaknesses in the data used to craft some of its plans to protect the endangered panther. While critics of FWS claim the agency's use of faulty information was politically motivated, FWS officials defend it as an honest mistake made in the context of an ever-evolving body of knowledge. In the case of the Preble's mouse, FWS announced in January 2005 that it will propose removing the mouse from the endangered species list because new research indicates that it is genetically not a separate subspecies of meadow jumping mouse as previously thought. Critics of the act cite this as evidence that the act does not require sufficient scientific evidence before a species is listed. Finally, FWS also recently announced that it will not place the sage grouse on the endangered species list. Critics of the decision are concerned that politics interfered with a scientifically justified decision to list the species. FWS claims that the decision was the result of an extensive review of scientific data and analysis.

While there are no simple answers to the conflicts and controversies surrounding the act, we believe that the federal agencies responsible for managing endangered species and their habitats can be more effective in how they manage these conflicts or potentially avoid conflicts altogether. We have issued more than 15 reports in the past 10 years addressing how the Endangered Species Act is being implemented. (These reports are listed in Appendix I along with other GAO reports that discuss the effect of the act on

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<sup>4</sup> For a fuller account of this controversy and efforts to resolve it, see U.S. General Accounting Office, *Ecosystem Planning: Northwest Forest and Interior Columbia River Basin Plans Demonstrate Improvements in Land-Use Planning*, GAO/RCED-99-64 (Washington, D.C.: May 26, 1999).

other programs). Today, I am going to discuss our work on two of the major issues currently being debated concerning the Endangered Species Act—the difficulty of balancing species needs with other resource uses and the use of science in implementing the act. Specifically, this testimony addresses (1) collaboration among federal agencies to conserve threatened and endangered species and (2) utilization of scientific information by FWS in key Endangered Species Act decisions.

This testimony is based primarily on four previously issued reports. In general, we did not perform additional audit work in preparing this testimony. We made recommendations in these four reports and have updated the status of agencies' efforts to implement our recommendations. Our work was conducted in accordance with generally accepted government auditing standards.

## **Summary**

In summary, we found that federal agencies have taken steps to improve collaboration as a way to reduce conflicts that often occur between species protections and other resource uses, but that more could be done to promote routine use of collaboration and clarify agencies' responsibilities under the Endangered Species Act. In September 2003, we reported on efforts taken by the Department of Defense (DOD) to coordinate with other federal land managers in order to reduce the impact of species protections on military activities. We found several cases where such efforts were successful. For example, at the Barry M. Goldwater range in Arizona, Air Force officials worked with officials at FWS and the National Park Service to enhance food sources for the endangered Sonoran pronghorn in locations away from military training areas. As a result, the Air Force was able to minimize the impact of restrictions on training missions due to the presence of the pronghorn. However, such cases were few and far between because, among other things, there were no procedures or centralized information sources for facilitating such collaboration. In March 2004, we reported on collaboration that takes place pursuant to section 7(a)(2) of the act—referred to as the consultation process—in the Pacific Northwest. In this area, large numbers of protected species and

vast amounts of federal land conspire to make balancing species protection and resource use a contentious endeavor. We found that steps the Services and other federal agencies had taken made the consultation process run smoother and contributed to improved interagency relationships. However, some problems have persisted. For example, some agencies disagree with the Services about when consultation is necessary and how much analysis is required to determine potential impacts on protected species. In each of these reports, we made recommendations intended to further improve collaboration among federal agencies with regard to balancing species protections and other resource uses, and—in the March 2004 report—to resolve disagreements about the consultations process. DOD and FWS have begun discussing an implementation strategy to improve collaboration regarding species protection on military and other federal lands and development of a training program. With regard to the consultation process, while FWS and NMFS have continued to take steps to expand their collaboration processes, the agencies did not believe that disagreements about the consultation process require additional steps. They believe that current training and guidance is sufficient to address questions about the process.

With regard to the use of science, we have found that FWS generally used the best available information in key Endangered Species Act decisions, although the agency was not always integrating new research into ongoing species management decisions. In addition, we identified concerns with the adequacy of the information available to make critical habitat decisions. In December 2002, we reported on many aspects of the decision making for species protections regarding the Mojave Desert tortoise. We found that the decision to list the tortoise as threatened, its critical habitat designation, and the recommended steps in the species' recovery plan, were based on the best available information. However, despite over \$100 million in expenditures on recovery actions and research over the past 25 years, it is still unclear what the status of the tortoise is and what effect, if any, recovery actions are having on the species because research has not been coordinated in a way to provide essential management information. Such information is critically important as some of the protective actions, such as restrictions on grazing and off road vehicle use, are vigorously opposed by interest groups who

question whether they are necessary for the tortoise's recovery. Accordingly, we recommended that FWS better link land management decisions with research results to ensure that conservation actions and land use restrictions actually benefit the tortoise. In response, FWS recently established a new office with a tortoise recovery coordinator and plans to create an advisory committee to ensure that monitoring and recovery actions are fed back into management decisions. In August 2003, we found that, similar to the decision making regarding the tortoise, FWS decisions about listing species for protection under the act were generally based on the best available information. However, while most critical habitat designations also appeared to be based on the best available information, there were concerns about the adequacy of the information available at the time these decisions are made. Specifically, critical habitat decisions require detailed information of a species' life history and habitat needs and the economic impacts of such decisions—information that is often not available and that FWS is unable to gather before it is obligated under the act to make the decision. As a result, we recommended that the Secretary of the Interior clarify how and when critical habitat should be designated and identify if any policy, regulatory, or legislative changes are required to enable the department to make better informed designations. FWS has not responded to our recommendation.

### **Collaborating to Protect Endangered Species**

At the heart of many of the controversies surrounding the Endangered Species Act is the competition for natural resources—competition between the needs of threatened and endangered species and resource extraction industries, land owners, and other users of the natural resources on which those species depend. Our work has largely focused on the challenges that agencies face in protecting species while carrying out their other mission-related responsibilities, some of which could have a negative impact on protected species. While our work has highlighted positive examples where collaboration between federal agencies has reduced conflict, there is still room for improvement.

## Collaboration Can Help the Military Sustain Critical Functions While Protecting Endangered Species

We saw the importance of collaboration among federal agencies in our work evaluating the protection of threatened and endangered species and habitat on military installations in the United States. Many DOD and other federal agency officials have recognized that military lands often provide some of the finest remaining examples of rare wildlife habitat for protected species. In fact, more than 300 threatened or endangered species inhabit military lands. However, DOD officials are concerned that the presence of protected species may constrain essential military training. DOD officials have identified the Endangered Species Act, along with other factors such as competition for air space and urban growth around military installations, as issues affecting or having the potential to affect military training and readiness.<sup>5</sup>

In September 2003,<sup>6</sup> we issued a report on the extent to which DOD and other federal land management agencies are cooperatively managing the protection of endangered species affecting military training ranges, and the factors that can limit such collaboration. We found several cases where DOD and other federal land managers have entered into cooperative agreements that have benefited both the species and the military. For example, collaboration among federal agencies around the Air Force's Barry M. Goldwater Range in Arizona, minimized the impact of restrictions on training exercises that were necessary to protect the endangered Sonoran pronghorn (a species similar in appearance to an antelope). Previously, Air Force officials reported that 32 percent of their live-fire missions were either cancelled or moved due to the presence of the pronghorn. Air Force officials worked with FWS and National Park Service officials to jointly fund forage enhancement plots, which provided food sources for the Sonoran

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<sup>5</sup> U. S. General Accounting Office, *Military Training: DOD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges*, GAO-02-614 (Washington, D.C.: June 11, 2002). See also U.S. General Accounting Office, *Military Training: DOD Approach to Managing Encroachment on Training Ranges Still Evolving*, GAO-03-621T (Washington, D.C.: April 2, 2003); and U.S. General Accounting Office, *Military Training: DOD Needs a Comprehensive Plan to Manage Encroachment on Training Ranges*, GAO-02-727T (Washington, D.C.: May 16, 2002).

<sup>6</sup> U.S. General Accounting Office, *Military Training: Implementation Strategy Needed to Increase Interagency Management for Endangered Species Affecting Training Ranges*, GAO-03-976 (Washington D.C.: September 29, 2003).

pronghorn. The plots enticed the pronghorn to an adjacent national wildlife refuge and away from military training areas and, as a result, minimized the impact of restrictions on training missions.

However, the instances of collaboration between DOD and the Departments of the Interior and Agriculture were limited. Although the departments have entered into memorandums of understanding that contain specific actions to be taken to implement cooperative management—such as forming interagency working groups, identifying geographic regions for species management, and identifying reporting requirements—many of the specific actions in these agreements were never fully implemented and most agreements had expired. When there were examples of cooperative management efforts between DOD and other federal land managers, they were often initiated in response to a crisis, such as a marked decline in a species' population or land-use restrictions that significantly impacted federal land managers' abilities to carry out their missions. The Departments of Defense, the Interior, and Agriculture identified a number of factors that can limit interagency cooperative management for endangered species affecting military training ranges. In addition to the absence of a shared sense of crisis among federal land managers, other obstacles to agency collaboration included limited agency interaction, resource constraints, lack of land manager training and experience, and the lack of centralized or otherwise easily accessible sources of information.

In our September 2003 report, we recommended that the Secretaries of Defense, the Interior, and Agriculture develop and implement an interagency strategy, a comprehensive training program, and a centralized data source for cooperative management efforts. The departments concurred on the need to improve interagency cooperation. The Department of Defense, FWS, and others have initiated plans for an interagency strategy, training program, and information sharing mechanisms.

## Collaboration Can Help Reduce the Contentiousness of the Consultation Process

Collaboration is central to the consultation process required under section 7(a)(2) of the Endangered Species Act, where federal agency officials must jointly assess the potential impacts of agency activities on protected species. The process can get contentious, however, because it sometimes pits officials at the Services against officials from other agencies who are attempting to carry out typical agency activities. For example, the process can become difficult when an agency such as the Corps of Engineers is planning an activity in accordance with its mission to support navigation in the nation's waterways, such as issuing permits for dock construction, and the Services recommend project changes in order to meet the requirements of the Endangered Species Act. Such changes can impact the nature of the original project, and add to the time and cost necessary to complete what some agency officials described as seemingly benign or insignificant activities.

We issued a report in March 2004 that evaluated the consultation process in the northwestern United States.<sup>7</sup> We were asked to evaluate the consultation process in this region because of persistent concerns about the time and cost that consultation added to federal activities and activities that are federally-permitted or funded. In the northwest United States, the consultation process is a prominent feature of federal land management because of the region's combination of large areas of federal land and significant numbers of listed species. Endangered or threatened species in this region include the Northern spotted owl, grizzly bear, Canada lynx, bull trout, and various species of salmon.

Between 1997 and 2000, 25 species in the northwest were identified for protection under the Endangered Species Act. This prompted concerns about the consultation process because many projects in the region were delayed, sometimes for years, because of the

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<sup>7</sup> U.S. General Accounting Office, *Endangered Species: More Federal Management Attention Is Needed to Improve the Consultation Process*, GAO-04-93 (Washington, D.C.: Mar. 19, 2004). See also U.S. General Accounting Office, *Endangered Species: Despite Consultation Improvements Efforts in the Pacific Northwest, Concerns Persist about the Process*, GAO-03-949T (Washington, D.C.: June 25, 2003).

Services' inability to address the associated workload increases. For example, according to a local community representative, before salmon were listed for protection in the late 1990s, the Corps of Engineers' permitting process for activities such as constructing or modifying private docks on Lake Washington generally took only 2 or 3 months and averaged about 5 percent of construction costs. Since salmon were listed, the Corps must consult with NMFS when issuing these permits. This representative said that, as a result, the timeframes for permits have increased to about 24 months and permitting costs have increased to about 33 percent of construction costs.

We found that, in response to concerns about the consultation process, the Services and other federal agencies had taken steps in three general categories to make the consultation process more collaborative and efficient.

- The Services and other federal agencies took steps to facilitate collaboration among their staffs so that disagreements about species protections and project modifications could be resolved before they slowed down the consultation process. Officials at the agencies cited several benefits of these steps such as increased trust between the Services and other agencies, better communication, and earlier involvement in projects, which many officials emphasized as important for consultations to run efficiently.
- The Services and other federal agencies also developed approaches to reduce the consultation workload, such as including multiple related activities in a single consultation. According to officials, this has increased the efficiency of the consultation process and enabled the agencies to deal more quickly with activities for which the effects on species are known.
- The Services and other federal agencies took steps to increase the consistency and transparency of the consultation process, such as providing interagency training courses and posting guidance and information on agency Web sites. For example, to address disagreements between the Services and other federal agencies, the Services issued guidance on how to assess the effects of right-of-way permits on protected species.

Despite efforts to improve the consultation process, officials with the Services and other federal agencies still have concerns about two key issues. First, officials at the agencies are still concerned about workload. While staff levels have increased in recent years, increases in personnel have been outpaced by the increasing number and complexity of consultations. Officials told us that more activities are going through the consultation process than before and that projects are becoming more complex, requiring greater analysis and staff time to identify potential impacts on species and any necessary protections. Second, officials at the Services and other federal agencies sometimes disagree about the extent to which consultation is necessary. Some agency officials said they feel pressured by the Services—and by the fear of litigation—to seek consultation, regardless of the likely effects of an activity on protected species, including in situations where they feel consultation is unnecessary. Officials at the Services also cited the fear of litigation, and said they believed that they were simply fulfilling their responsibilities under the act to consult on projects that may affect protected species regardless of the level of the potential impact. The result is a continued sense of frustration among agency officials regarding what protections are necessary under the Endangered Species Act and the time it takes to reach agreements in agency consultations.

Because many concerns about the consultation process center on its timeliness, we recommended in our March 2004 report that FWS and NMFS work with other agencies to determine how best to capture data on the level of effort devoted to the consultation process and use this information to manage the process. We further recommended that the Secretaries of the Interior and Defense, the Under Secretary of Commerce for Oceans and Atmosphere, and the Chief of the Forest Service work together to resolve disagreements about when consultation is required and how detailed an analysis is necessary. Both FWS and NMFS have taken steps to improve information management of the consultation process, although it is unclear whether they have determined how to capture the level of effort devoted to the process—admittedly, a difficult task. While FWS and NMFS have continued to take steps to expand collaborative processes, in an update on their actions, the agencies stated that they did not believe that disagreements

about the consultation process require the adoption of additional measures. They believe that the current training and guidance on consultation is sufficient to address questions about the process.

## **Using Scientific Information to Make Decisions**

Scientific information is a key component of most decisions regarding the implementation of the Endangered Species Act. Our work has largely focused on how FWS has used information in key decisions about endangered species, such as listing threatened and endangered species, designating critical habitat, and developing species recovery plans. While we found that FWS has generally done a good job using available information to make decisions, there is still room for improvement.

### While Many Key Protection Decisions for the Mojave Desert Tortoise Were Based on the Best Available Information, FWS Has Not Always Integrated Research Into Ongoing Recovery Decisions

In a December 2002 report,<sup>8</sup> we found that key FWS decisions were supported by the best available information. We relied on experts identified for us by the National Academy of Sciences to review FWS listing, critical habitat, and recovery plan decisions for the Mojave Desert tortoise. Based on their review of the information available at the time the respective decisions were made, the scientists we consulted agreed that the listing of the desert tortoise in 1990, the critical habitat designation, and the recommendations in the recovery plan were reasonable. These scientists recognized that, as is often the case with such decisions, little published data on the species were available. However, they agreed that FWS's decisions were appropriate and consistent with their understanding of the agency's responsibilities under the act.

Our report, however, was less positive with regard to what FWS had learned about the tortoise since their decisions were made. We found that while over \$100 million (in

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<sup>8</sup> U.S. General Accounting Office, *Endangered Species: Research Strategy and Long-Term Monitoring Needed for the Mojave Desert Tortoise Recovery Program*, GAO-03-23 (Washington, D.C.: Dec. 9, 2002).

constant 2001 dollars) had been spent on research and recovery efforts over the past 25 years, there was still little known about the species' status, the key threats to its survival, or the effectiveness of management actions implemented to help the tortoise. While many actions intended to protect the tortoise have been taken, necessary research had not been conducted to determine whether these actions were effective. For example, the Bureau of Land Management prohibited sheep grazing on more than 800,000 acres of tortoise habitat in California and implemented restrictions on off-road vehicles in tortoise habitat. While individual studies had been conducted on these issues, the research had not been coordinated in a way to answer questions about the impact of such actions on tortoise populations or habitat. Determining the effectiveness of such protective actions is important because they affect large areas of land, were recommended on the basis of limited published data, and in some cases, are vigorously opposed by certain interest groups. Unless managers link research findings to assessments of recovery actions that have been implemented, they cannot make determinations based on scientific information as to whether land use restrictions should remain unchanged, be strengthened, or whether alternative actions are more appropriate.

To ensure that the most effective actions are taken to protect the tortoise, we recommended in our December 2002 report that the Secretary of the Interior develop and implement a coordinated research strategy for linking land management decisions with research results and periodically reassess the recovery plan for the tortoise. In response, FWS recently established a new office with a tortoise recovery coordinator and three field coordinators who will help coordinate research and management. In addition, the agency plans to create an advisory committee to ensure that monitoring and recovery actions are fed back into management decisions. FWS previously utilized an expert committee to review the recovery plan for the tortoise. Although the committee found that the plan was fundamentally sound, it similarly recommended that ties between research and management be strengthened.

## Species Listing and Critical Habitat Decisions Are Based On Best Available Information, but Concerns Remain About the Adequacy of that Information

Recent concerns about FWS listing and critical habitat decisions have focused on the role that “sound science” plays in the decision making process and whether FWS properly interprets scientific data and bases its decisions on adequate scientific information. Critics of FWS decisions warn that improper listing and critical habitat decisions may disrupt social and economic activities and divert funding and attention away from species truly facing extinction. The Endangered Species Act requires FWS to use the best available information when making decisions to list species or designate critical habitat. It is important to note that the “best available” standard does not obligate FWS to conduct studies to obtain new data, but prohibits the agency from ignoring available information. FWS goes through an extensive series of procedural steps that involve public participation and review by outside experts (i.e., peer reviewers) to help ensure that it collects relevant data and uses it appropriately.

In August 2003, we reported on FWS’s use of available scientific information in making listing and critical habitat decisions.<sup>9</sup> Because of the number of species decisions to analyze and the inherent difficulties in independently assessing available scientific information and determining what constitutes a scientific sound decision, we identified several proxies for assessing the reliability of FWS listing and critical habitat decisions. These proxies entailed reviews of:

- The procedures FWS follows for gathering information and internally reviewing decision documents;
- Comments from peer reviewers on listing and critical habitat decisions;
- The outcomes of legal challenges to these decisions; and
- Subsequent changes to FWS listing and critical habitat decisions, such as after additional scientific information had been gathered.

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<sup>9</sup> U.S. General Accounting Office, *Endangered Species: Fish and Wildlife Service Uses Best Available Science to Make Listing Decisions, but Additional Guidance Needed for Critical Habitat Designations*, GAO-03-803 (Washington, D.C.: Aug. 29, 2003).

In each case, we determined that, overall, FWS species listing and critical habitat decisions were based on the best available information. However, experts and others knowledgeable about the Endangered Species Act have expressed concerns about FWS's ability to designate critical habitat for some listed species given the amount of information available on the species' habitat needs at the time decisions must be made—at the time of listing or shortly thereafter. Unlike listing decisions that are more straightforward—requiring FWS to answer only a “yes or no” question as to whether a species warrants listing—critical habitat decisions often require more detailed knowledge of a species' life history and habitat needs and call for FWS to factor in the species' special management needs as well as the economic impacts of the designation. FWS officials, experts, and others with whom we spoke agreed that the amount of scientific information available when they are required to designate critical habitat is limited and often affects FWS's ability to adequately define the habitat essential to the species' conservation. While some interested parties stated that FWS designated areas too broadly and included lands unsuitable for several species, others said that FWS did not designate enough habitat for some listed species. According to FWS officials, the resource and time constraints under which its scientists work often preclude them from collecting new information and, as a result, their ability to produce adequate critical habitat designations may be limited by the information available for some species. We found that most scientific disagreements surrounding recent critical habitat designations concerned whether the area chosen as critical habitat is sufficiently defined or whether the overall information used to support the designation is adequate. In order to increase the amount of information available on which to base critical habitat designations, FWS and others, including the National Research Council, have recommended delaying designations until recovery plans are developed.<sup>10</sup>

We also reported that FWS's critical habitat program faced a serious crisis that extended well beyond the use of science in making decisions. Key court decisions have invalidated certain practices adopted by the agency, causing its critical habitat program

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<sup>10</sup> National Research Council, *Science and the Endangered Species Act* (Washington D.C.: National Academy Press, 1995) pp. 71-93.

to become overburdened by litigation. Specifically, a key court case in 1997 invalidated FWS's policy regarding when it was prudent to designate critical habitat for listed species.<sup>11</sup> Prior to the decision, FWS had designated critical habitat for only about 10 percent of listed species. Since then, court orders and settlement agreements have compelled FWS to designate critical habitat in cases that the agency had previously determined doing so was not prudent. In 2001, FWS lost another key lawsuit, challenging the adequacy of the economic analyses the agency used to support its critical habitat designations.<sup>12</sup> Since this decision was issued, court orders and settlement agreements have prompted FWS to re-issue some critical habitat decisions. The Department of the Interior believes that the flood of litigation over critical habitat designation is preventing FWS from taking what it deems to be higher priority activities, such as addressing the approximately 250 "candidate" species waiting to go through the listing process (listing and critical habitat activities are funded under the same line item in the department's budget).

Because FWS's critical habitat program faces serious challenges, including questions regarding the role of critical habitat in species conservation, we recommended in our August 2003 report that the Secretary of the Interior provide clear strategic direction for the critical habitat program by clarifying the role of critical habitat and how and when it should be designated and recommending policy, regulatory, and/or legislative changes necessary to address these issues. The Department did not respond to our request to comment on a draft of this report and has not formally indicated whether or not it intends to implement the recommendation.

## **Conclusion**

We recognize that passions run high when issues concern the Endangered Species Act. The act, with its broad powers to restrict the use of natural resources and impinge upon individual property rights, coupled with its noble purpose to conserve the ecosystems

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<sup>11</sup> *Natural Resources Defense Council v. United States Department of the Interior*, 113 F.3d 1121 (9<sup>th</sup> Cir. 1997).

<sup>12</sup> *New Mexico Cattle Growers v. United States Fish and Wildlife Service*, 248 F.3d 1277 (10<sup>th</sup> Cir. 2001).

upon which threatened and endangered species depend, provides a crucible for an ongoing national debate concerning the tradeoffs between economic, social, and environmental values. As members of the Subcommittee are well aware, there are no easy answers. However, there is common ground among everyone concerned about the act and its impact on the nation and its resources. All can agree that reducing the negative impacts of implementing the act—whether it be the loss of credibility for the Services over debates about “sound science” or the perceived injustice of limited resource use due to needed species protections—while improving the status of threatened and endangered species is a worthy goal. In our testimony today, we have highlighted just a few examples where federal agencies, working cooperatively and diligently, have achieved just that. Unfortunately, we found too few examples of this in our work. We believe more can be done. The task before us is to identify how all concerned parties—federal, tribal, state, local, and private—can work together to improve the status of threatened and endangered species while further reducing the negative impacts of implementing the act. As we begin a new review of how species recovery plans are being implemented—work that was requested by a bipartisan group of Senators and Congressmen including the Chairman of this Subcommittee—we hope that the successful examples on collaboration and the use of science we noted here are harbingers for future cooperation and success.

## Appendix I: GAO Reports Concerning the Endangered Species Act

### Reports Addressing Implementation of the Endangered Species Act

*Endangered Species: Fish and Wildlife Service Generally Focuses Recovery Funding on High-Priority Species, but Needs to Periodically Assess Its Funding Decisions.* GAO-05-211. Washington, D.C.: April, 6, 2005.

*Protected Species: International Convention and U.S. Laws Protect Wildlife Differently.* GAO-04-964. Washington, D.C.: September 15, 2004.

*Endangered Species: Federal Agencies Have Worked to Improve the Consultation Process, but More Management Attention Is Needed.* GAO-04-93. Washington, D.C.: March 19, 2004.

*Military Training: Implementation Strategy Needed to Increase Interagency Management for Endangered Species Affecting Training Ranges.* GAO-03-976. Washington, D.C.: September 29, 2003.

*Endangered Species: Fish and Wildlife Service Uses Best Available Science to Make Listing Decisions, but Additional Guidance Needed for Critical Habitat Designations.* GAO-03-803. Washington, D.C.: August 29, 2003.

*Endangered Species: Despite Consultation Improvement Efforts in the Pacific Northwest, Concerns Persist about the Process.* GAO-03-949T. Washington, D.C.: June 25, 2003

*International Environment: U.S. Actions to Fulfill Commitments Under Five Key Agreements.* GAO-03-249. Washington, D.C.: January 29, 2003.

*Endangered Species: Research Strategy and Long-Term Monitoring Needed for the Mojave Desert Tortoise Recovery Program.* GAO-03-23. Washington, D.C.: December 9, 2002.

*Columbia River Basin Salmon and Steelhead: Federal Agencies' Recovery Responsibilities, Expenditures and Actions.* GAO-02-612. Washington, D.C.: July 26, 2002.

*International Environment: U.S. Actions to Fulfill Commitments Under Five Key Agreements.* GAO-02-960T. Washington, D.C.: July 24, 2002.

*Endangered Species Program: Information on How Funds Are Allocated and What Activities Are Emphasized.* GAO-02-581. Washington, D.C.: June 25, 2002.

*Canada Lynx Survey: Unauthorized Hair Samples Submitted for Analysis.* [GAO-02-496T](#). Washington, D.C.: March 6, 2002.

*Unauthorized Hair Samples Submitted for Analysis.* [GAO-02-488R](#). Washington, D.C.: March 6, 2002.

*Accidental Contamination of Samples Used in Canadian Lynx Study Rendered the Study's Preliminary Conclusion Invalid.* [GAO-01-1018R](#). Washington, D.C.: August 14, 2001.

*Endangered Species Act: Fee-Based Mitigation Arrangements.* [GAO-01-287R](#). Washington, D.C.: February 15, 2001.

*Fish and Wildlife Service: Challenges to Managing the Carlsbad, California, Field Office's Endangered Species Workload.* [GAO-01-203](#). Washington, D.C.: January 31, 2001.

*Fish and Wildlife Service: Weaknesses in the Management of the Endangered Species Program Workload at the Carlsbad, California Field Office.* [T-RCED-00-293](#). Washington, D.C.: September 14, 2000.

*Endangered Species: Caribou Recovery Program Has Achieved Modest Gains.* [RCED-99-102](#). Washington, D.C.: May 13, 1999.

*Department of Commerce, National Oceanic and Atmospheric Administration: Endangered and Threatened Species; Threatened Status for Two Chinook Salmon Evolutionarily Significant Units (ESUs) in California.* [OGC-00-5](#). Washington, D.C.: October 15, 1999.

*Department of Commerce, National Oceanic and Atmospheric Administration: Endangered and Threatened Species of Salmonids.* [OGC-99-38](#). Washington, D.C.: April 7, 1999.

*Estimated Costs to Recover Protected Species.* [RCED-96-34R](#). Washington, D.C.: December 21, 1995.

#### Reports Related to the Endangered Species Act

*Military Training: DOD Approach to Managing Encroachment on Training Ranges Still Evolving.* [GAO-03-621T](#). Washington, D.C.: April 2, 2003.

*Transboundary Species: Potential Impact to Species.* [GAO-03-211R](#). Washington, D.C.: October 31, 2002.

*Military Training: DOD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges.* [GAO-02-614](#). Washington, D.C.: June 11, 2002.

*Military Training: DOD Needs a Comprehensive Plan to Manage Encroachment on Training Ranges.* GAO-02-727T. Washington, D.C.: May 16, 2002.

*Consequences of the Ruling by the 11th Circuit Court of Appeals on Forest Management Projects.* GAO-01-51R. Washington, D.C.: November 30, 2000.

*Timber Management: Forest Service Has Considerable Liability for Suspended or Canceled Timber Sales Contracts.* GAO-01-184R. Washington, D.C.: November 29, 2000.

*Army Corps of Engineers: An Assessment of the Draft Environmental Impact Statement of the Lower Snake River Dams.* RCED-00-186. Washington, D.C.: July 24, 2000.

*National Fish Hatcheries: Authority Needed to Better Align Operations With Priorities.* RCED-00-151. Washington, D.C.: June 14, 2000.

*Fish and Wildlife Service: Agency Needs to Inform Congress of Future Costs Associated With Land Acquisitions.* RCED-00-52. Washington, D.C.: February 15, 2000.

*Fish and Wildlife Service: Management and Oversight of the Federal Aid Program Needs Attention.* T-RCED-99-259. Washington, D.C.: July 20, 1999.

*International Environment: Literature on the Effectiveness of International Environmental Agreements.* RCED-99-148. Washington, D.C.: May 1, 1999.

*Ecosystem Planning: Northwest Forest and Interior Columbia River Basin Plans Demonstrate Improvements in Land-Use Planning.* RCED-99-64. Washington, D.C.: May 26, 1999.

*Forest Service: Distribution of Timber Sales Receipts, Fiscal Years 1995 Through 1997.* RCED-99-24. Washington, D.C.: November 12, 1998.

*Water Resources: Corps of Engineers' Actions to Assist Salmon in the Columbia River Basin.* RCED-98-100. Washington, D.C.: April 27, 1998.

*Federal Land Management: Estimates of Value and Economic Effects of Canceled and Suspended Timber Sale Contracts in the Pacific Northwest.* RCED-98-18R. Washington, D.C.: October 6, 1997.

*Forest Service: Unauthorized Use of the National Forest Fund.* RCED-97-216. Washington, D.C.: August 29, 1997.

*Tongass National Forest: Lack of Accountability for Time and Costs Has Delayed Forest Plan Revision.* T-RCED-97-153. Washington, D.C.: April 29, 1997.

*Federal Power: Issues Related to the Divestiture of Federal Hydropower Resources.* RCED-97-48. Washington, D.C.: March 31, 1997.

*Timber Management: Opportunities to Limit Future Liability for Suspended or Canceled Timber Sale Contracts.* RCED-97-14. Washington, D.C.: October 31, 1996.

*Bureau of Reclamation: An Assessment of the Environmental Impact Statement on the Operations of the Glen Canyon Dam.* RCED-97-12. Washington, D.C.: October 2, 1996.

*Northwest Power Planning Council: Greater Public Oversight of Business Operations Would Enhance Accountability.* RCED-96-226. Washington, D.C.: August 30, 1996.

*Animas-La Plata Project: Status and Legislative Framework.* RCED-96-1. Washington, D.C.: November 17, 1995.

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