

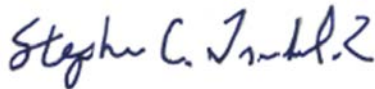
Scientific Societies' Statement on the Endangered Species Act

February 27, 2006

The Endangered Species Act of 1973 (ESA) is the subject of ongoing Congressional scrutiny that may result in the amendment of the law. Many of the proposed changes involve scientific issues and how science, research, and scientists advance the conservation of endangered plants and animals. Our societies are committed to the goals of the ESA and assert that the best available science must be used in its implementation. The ESA is a vital and fundamentally sound tool in this Nation's effort to maintain biological diversity. The law's effectiveness in protecting and recovering species has been hamstrung by insufficient funding, little of which has been used to implement on-the-ground recovery actions. Many of our societies have issued position statements or reports on the ESA in the past, most recently, "*Practical solutions to improve the effectiveness of the Endangered Species Act for wildlife conservation*" by The Wildlife Society.

We provide the following comments on the Endangered Species Act, focusing on those areas where we believe our expertise as scientists and experience in helping implement the ESA is most relevant. Our professional scientific societies represent thousands of scientists and natural resource managers in the United States. These recommendations were developed by scientists representing each of our societies and have been approved by the governing board of each society. We believe that the recommendations contained herein, if adopted, would improve the protection and recovery of endangered wildlife in the U.S. while reducing conflict over the law.

Sincerely,



Stephen Trombulak, President
North American Section
Society for Conservation Biology



Nancy B. Grimm, President
Ecological Society of America



Michael Hutchins, Executive Director/CEO
The Wildlife Society



Angela S. Williams, President
Society for Range Management



Gus Rassam, Executive Director
American Fisheries Society



Frank E. Gilstrap, President
Entomological Society of America

The following scientific societies have also endorsed this report and its recommendations:

Edwin P. Pister, Executive Secretary
Desert Fishes Council

Peter V. August, Chair
United States Regional Association of the International Association for Landscape Ecology

Bernard Kuhajda, Chair Elect
Southeastern Fishes Council

Steve Ahlstedt, President-Elect
Freshwater Mollusk Conservation Society

Darrel R. Frost, President
American Society of Ichthyologists and Herpetologists

Scott V. Edwards, President
Society for Systematic Biologists

Michael T. Barbour, President
North American Benthological Society

John T. Rotenberry, President
Cooper Ornithological Society

William M. Dahl, Executive Director
Botanical Society of America

Robert R. Christian, President
Estuarine Research Federation

Use of Scientific Data

Consistent with Congress' determinations on passing the Endangered Species Act (ESA) in 1973, we agree that decisions made under the ESA must be made on the basis of the best scientific data available. This standard sometimes requires actions to be taken to address the threat of animal and plant extinctions even if it is not possible to precisely demonstrate either the magnitude of those threats or cause-effect relationships. Constant vigilance is required to ensure that decisions under the law are based on sound scientific analysis.

Proposed amendments by the House of Representatives would 1) create a process for defining "best available scientific data," and limit data to those that are empirical, have been peer-reviewed by reviewers recommended by the National Academy of Sciences, or are consistent with Office of Management and Budget (OMB) guidance under the Data Quality Act; and 2) require analysis of economic and national security impacts to be conducted for every listing decision. We do not believe that using a regulatory process to prescribe what and how science should be used will improve the speed, success, or cost-effectiveness of conservation and recovery efforts for wildlife, nor is it appropriate to codify OMB guidelines in the way proposed. These guidelines have attracted widespread criticism from other scientific societies.¹ While guidelines can help to ensure that certain standards are met and maintained, an overly rigid process will result in inefficient use of time and resources. We believe the proposed amendments approved by the House would mandate such an overly rigid process.

Modeling Studies: The House amendments draw a distinction between "empirical" data and other types of information, such as that derived from modeling. There is no scientific justification for giving greater weight to empirical data over modeling results. The emphasis on empirical data runs counter to recommendations of the National Research Council report, *Science and the Endangered Species Act*, which calls for greater use of modeling analyses. It also runs counter to the Ecological Society of America's paper² that recommended increased use of models because of the wealth of information that only they can provide. For managing endangered species, predicting the future behavior of a population or system under different management programs is of paramount interest, and no credible prediction is possible without a formal or informal model.

Population viability analysis is a key modeling approach used to identify important population parameters, such as minimum effective population size, extinction risk, and how species' survival can be maximized under different conditions. Risk assessment is at the core of the ESA. The Environmental Protection Agency must use models to assess the risk of air pollution to human health. The Federal Reserve requires models to predict the response of the economy to monetary policy. Likewise, ecological scientists need models to predict the risk of extinction or the likelihood of recovery.

Models have played important roles in restoring endangered species. For example, the proposed decision to de-list the Yellowstone grizzly bear is based in part upon population viability models.

¹ American Association of Medical Colleges comments on "Proposed Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies."

<http://www.aamc.org/advocacy/library/research/corres/2001/081301.htm>

² Carroll, R., et al. 1996. Strengthening the Use of Science in Achieving the Goals of the Endangered Species Act: An Assessment by the Ecological Society of America. *Ecological Applications* 6: 1-11.

<http://www.esa.org/pao/esaPositions/Papers/StrentheningUSAGESA.php>

Models have played key roles in managing sea turtles and in developing restoration plans for the Everglades ecosystem that maximize benefits to endangered and non-endangered species. Denying agency scientists the ability to use one of science's most effective tools will weaken, not strengthen, the use of science in the ESA.

Peer Review: Peer review is an integral component of science, scientific research, and publishing. We strongly support the process of scientific peer review. As scientists, however, we also use information in unpublished graduate theses, reports of state and federal agencies, and documents prepared by consultants. Many such documents provide important scientific information and data, some of which is unavailable from other sources. Much of this information will be published in peer-reviewed literature, but that process can take years, which would unnecessarily delay recovery planning. Scientists exercise diligence in weeding out inaccurate statements and conclusions from such documents and apply similar diligence to peer-reviewed publications. Agencies such as the U.S. Fish and Wildlife Service have procedures in place to undertake peer review of studies that have not previously been peer-reviewed. We believe that proposed limitations on the use of non-peer-reviewed technical reports and other studies will weaken, not strengthen, the science employed in endangered species decisions by limiting the data available to scientists and decision-makers.

Recommendations: We do not recommend that Congress mandate any sweeping new prescriptions on the use of scientific data under the ESA such as those contained in recent legislative proposals. However, establishing additional procedures for particularly important or controversial decisions may provide benefits for listed species and reduce impacts on affected parties. Specifically, Congress should consider establishing an independent standing "science advisory committee," that would provide an additional level of review of certain decisions and advice to the Secretaries of Interior and Commerce in circumstances where significant scientific uncertainty impedes decision-making. Such a committee would also provide an outlet for additional peer review, but should only be used in instances where new methodologies are being implemented or where the science is particularly complex or controversial.

Uncertainty and conflict over ESA decisions are rarely caused by knowledge being applied incorrectly. Rather, they are driven by the simple fact that little is known about many rare plants and animals (beyond the fact that they are rare). Congress could dramatically reduce these problems simply by creating dedicated funding for population surveys, genetic analyses, population viability analyses, and research on rare or declining plants and animals. Allocation of any such funding should be prioritized to species for which the least information is available and for which conflicts are most likely.

More Prompt Protection for Rare and Declining Species

A 1993 study found that by the time most plants and animals are listed, their population sizes and number of populations have reached critically low levels.³ For example, fewer than about 1,000 individuals were known to be alive for half of vertebrate species when they were first protected, and for plants, half of species had fewer than 120 individuals remaining. The rarer a species is allowed to become before it is protected, the longer, more difficult, and more expensive the road to recovery is likely to be. This fact alone may account for much of the slowness in recovering species. More prompt listing of rare and declining species would provide regulators with more options as they develop conservation and recovery plans, and it would increase the likelihood and speed of recovery. There is no valid reason why individual listing decisions should consume the current level of time or agency resources.

Studies have also shown that hundreds of very rare and localized species have not been listed under the Endangered Species Act.⁴ This strikes us as a far more serious problem in terms of U.S. environmental policy than the handful of species that may have been listed in error over the 32-year life of the ESA. The longer the delay in protecting species, the longer it is likely to take to recover them and the more those recovery efforts are likely to cost.

Recommendations: Recognizing Congress' intent to ensure that plants and animals not disappear from America and that listing occurs in time to speed subsequent recovery, we believe that the following changes would improve the Endangered Species Act:

1. Scientists have developed robust criteria to identify when wildlife is critically imperiled, imperiled, or vulnerable, and these criteria are used by wildlife agencies throughout the United States and the world. The U.S. Fish and Wildlife Service and National Marine Fisheries Service should be required to produce regulations that define how they will use these or similar criteria to prioritize and trigger status reviews, particularly those for any species that are identified as "critically imperiled" or "imperiled" under such criteria.
2. On an annual basis, require federal agencies to solicit from Governors and state wildlife agencies, lists of species for which states believe status reviews should be conducted.

³ Wilcove, D.S., M. McMillan, and K.C. Winston. 1993. What exactly is an endangered species? An analysis of the U.S. endangered species list: 1985-1991. *Conservation Biology* 7: 87-93.

⁴ Master, L.L., B.A. Stein, L.S. Kutner, and G.A. Hammerson. 2000. Vanishing assets: conservation status of U.S. species. In Stein, B.A., L.S. Kutner, and J.S. Adams, eds. *Precious Heritage: The Status of Biodiversity in the United States*. Oxford University Press, NY.

Eliminating Rare Mistakes in Listing Non-endangered Plants and Animals

We agree with the conclusions of the Government Accountability Office⁵ that the U.S. Fish & Wildlife Service uses sound science in listing decisions. While listing decisions are based on the best available information, the information on the status of species is sometimes limited, and in a very small number of cases, this has resulted in listing decisions that later prove to be unwarranted. For example, the GAO noted that 10 of the more than 1,300 U.S. listed species have been de-listed after new information indicated the original listing was not warranted. In analyzing delisting notices we conclude that these listings were in error because subsequent surveys discovered more individuals, or modern genetic methods resulted in reinterpretation of taxonomy and the taxonomic basis for listing. We agree that mistakes in the use or interpretation of limited scientific data, although extremely infrequent, can cause losses to landowners and waste resources.⁶

The proposed House changes to the Endangered Species Act create new steps in regulatory processes and data requirements that would affect the listing process. Changes to the ESA intended to reduce the already low rate of mistaken listings may be warranted so long as they do not also significantly slow the speed with which species deserving protection are listed, or eliminate from consideration species that deserve protection. However, we find no evidence to suggest that amendments proposed by the House will eliminate listing errors. Further, such amendments will slow or prevent the listing of species that legitimately deserve protection because information on their status comes from scientific studies that could not be used by the Services under proposed new requirements.

Recommendation: Congress could further reduce the few errors made in listing decisions by creating dedicated funding for population surveys, population viability analyses, and genetic and other research on rare or declining plants and animals. Allocation of any such funding should be prioritized to species for which the least information is available, for which conflicts are most likely, and that are under consideration for protection. Such a program would likely eliminate unwarranted listings without impeding the listing of species for which sufficient information is available.

⁵ For a summary and link to the full GAO report <http://www.gao.gov/highlights/d03803high.pdf>

⁶ A far more frequent occurrence is the discovery of additional populations of a rare species after listing, as a result of the attention listing brings to that species. However, the number of new populations is almost always too few to warrant a reversal of the listing decision. We view these sorts of discoveries as a strength of the ESA, not evidence of any problem.

Improve the Quality and Implementation of Recovery Plans

Recovery efforts and funding are inadequate for nearly all listed animals and plants. For example, the median expenditure for a listed species in 2002 by all federal and state agencies was only \$14,100. If recovery actions are not funded or carried out, it is no surprise that recovery is occurring more slowly than anticipated. Nevertheless, many species have made significant progress, and protection under the ESA has prevented many from going extinct. We focus our recommendations on two areas where the ESA establishes the most tangible connection between science and recovery: development of recovery plans and operation of the recovery team.

The ESA requires the Services to develop recovery plans. These plans are meant to guide subsequent conservation and restoration efforts. Scientists, including hundreds who are members of our societies, have volunteered their time to help develop the recovery plans that now exist for more than 80 percent of listed species. These recovery plans summarize the relevant species ecology, describe population status, and set quantitative goals that if achieved, indicate the risk of extinction is low enough to allow the species to be down-listed to threatened status or to be declared 'recovered.' Decisions regarding habitat protection and other specific management activities are best made during or after development of a science-based recovery plan rather than as separate activities.

Our societies agree that the goals that define the unique meaning of 'recovery' for each species are the most important part of recovery plans. Recovery plans also should include an implementation strategy that specifies actions that, if taken, will lead to recovery. These actions provide sufficient guidance over short time periods; yet, over longer time periods, success depends on unpredictable opportunities and continually changing information and conditions that affect the species. As such, few written recovery strategies will ever be able to provide a detailed and accurate site-specific blueprint for how long-term recovery can be achieved. The ESA should make it easier to adapt recovery plans to new knowledge about endangered species and their conservation needs.

Proposed House amendments create a new requirement for recovery plans to be published within two years of species being listed. We support this requirement because substantial scientific information is available for many species by the time they are listed. However, such deadlines cannot be met if funding is inadequate. We also support requirements for recovery plans to include "intermediate measures" because shorter-term goals offer a realistic, quantitative way to evaluate recovery progress and to identify whether recovery strategies need to be modified based on new information. We conclude that other amendments proposed by the House will produce no significant improvement in the implementation of recovery efforts, because the amendments largely create more time-consuming "process" requirements without improving the scientific quality of recovery plans, the likelihood they will be funded adequately, or the speed with which they are implemented. We do not support the proposed requirement for other federal agencies to make formal plans that prescribe their involvement in recovery efforts. Agencies currently undertake recovery actions on an informal basis with less delay and bureaucracy than is likely to occur if such changes are made.

Recommendations: We support the following changes to make recovery plans easier to develop and revise and more likely to be implemented and to improve the function of recovery teams.

- 1) Recovery plans should be 'living' documents, not static tomes that are out of date by the time they are finalized. Congress should consider amendments that would make it easier for the Services to amend the implementation strategy for recovery, while maintaining overall recovery goals.
- 2) Recovery plan objectives and interim and final targets should be updated every five years. As part of this process, the Services should also be required to include reports on how much progress has been made in the preceding years in achieving past objectives and targets. Scientists and the public alike lack a clear picture of how much progress has been made in recovering listed species in part because the Services report on status trends every two years and because in those biennial status reports, the Services use a poorly articulated, qualitative approach that describes species as improving, declining, stable, or unknown. We recommend that the Services be required to work with the scientific community to identify whether there are more objective, measurable ways to categorize species that provide a clearer picture of short and long-term recovery progress.
- 3) We agree that parties experiencing economic and social impacts from recovery activities should be included in parts of recovery plan development because their participation will often be essential to recovery. However, we do not support Senate proposed changes that would create a two-tiered recovery team structure with the work of scientists separate from and subsidiary to the decision-making of an "executive committee" composed of agencies and affected parties. Rather, technical efforts to define the biological objectives of the recovery plan for the species, to define quantitative interim and final recovery targets, and to assess whether an implementation strategy is likely to achieve biological goals should be developed solely by scientists and agency experts with a broader set of participants contributing the development of an implementation strategy to achieve those goals.

Species Conservation and Recovery Depends on Protection of Habitat

Habitat loss is the primary threat to species, contributing to the decline of 80 percent of rare and endangered species worldwide. Habitat conservation on both public and private lands is essential for recovery of many listed species, and for preventing endangerment of other species. Any protection afforded a threatened or endangered species must reflect first the successful identification by biologists of essential habitats that provide the requirements a species needs to survive and recover. Such essential habitats will generally include those areas that are currently capable of supporting stable or growing populations of the species in question or that could be made capable of doing so with proper management.

Proposed House amendments would eliminate 'critical habitat' and related regulatory protection of habitat, replacing it with 'recovery areas' that are identified in recovery plans and have no regulatory status. Recovery of most listed species depends on both occupied habitat and suitable unoccupied habitat that species can expand into as populations recover, because species are usually listed when their population sizes are very small. If destruction or significant modification of unoccupied habitat is allowed, there is little hope that recovery can be achieved. Proposed House amendments would eliminate all ESA protections for such unoccupied habitat.

Recommendation: In considering changes to the critical habitat sections of the ESA, we urge Congress to think most carefully about how to protect unoccupied habitat or to restore habitat that is essential for recovery of many endangered plants and animals and for which Section 9 'take' prohibitions provide no protection. Congress could improve the recovery prospects for many species if there was a mechanism for the protection of such unoccupied habitat and reestablishment of endangered species within unoccupied habitat.