



MYTHS AND REALITIES

WHAT SCIENTISTS SAY ABOUT SCIENCE AND THE ESA

ENDANGERED SPECIES ACT



The National Academy of Sciences, the Ecological Society of America, and the Society for Conservation Biology—the three largest and most prestigious scientific organizations dealing with environmental issues—have made public statements on the roles of science in policy making under the Endangered Species Act.

MYTH: The Endangered Species Act is ineffective.

REALITY: The Endangered Species Act does protect species.

● "The 1973 Endangered Species Act is a powerful and sensible way to protect biological diversity, and contains the procedures and mechanisms with which to achieve this goal." (ESA)

● "fewer species have become extinct than would have without the ESA." (NAS, p.11)

MYTH: Agency scientists frequently use "junk" science.

REALITY: Agency biologists are required by the ESA to use the best available scientific data and methods.

● "Biologists in the agencies responsible for implementing the Endangered Species Act generally try to use the best scientific information and methods available. Failure to use the best available information and methods is generally due to inadequate budgets and overworked staff." (ESA)

MYTH: Protection measures for listed species occur too fast and with not enough data to support such measures. More field data is needed before any ESA decisions are made.

REALITY: There will always be uncertainty, and therefore protective measures should be implemented even when there is not enough data. Because most endangered or threatened species are so rare, very little field data is available and these species may go extinct before extensive data can be collected. Most decisions need to be made based on accurate population modeling and existing data.

● "For even the best-studied endangered species, essential pieces of information might be lacking, yet decisions must be made." (NAS, p.125)

● "Our biological understanding of many rare, threatened, or endangered

PROFILES OF THE EXPERTS

National Academy of Sciences (NAS): Requested by several members of Congress in 1991, the National Research Council of the National Academy of Sciences conducted a study reviewing scientific issues related to the ESA. NRC published its findings in 1995 in its report, *Science and the Endangered Species Act*. (Clegg, M.T. et al. 1995) The report was written by the 17 member NRC Committee on Scientific Issues in the Endangered Species Act. The committee comprised experts in ecology, systematics, population genetics, wildlife management, risk and decision analysis and economics.

Ecological Society of America (ESA): Founded in 1915, the Society is the nation's leading professional organization of ecological scientists with 7,500 members. In March 1992, the Society established a 9 member Committee on Endangered Species to address the ecological issues of ESA reauthorization. In 1996, they published their results "Strengthening the Use of Science in Achieving the Goals of the Endangered Species Act: An Assessment by the Ecological Society of America in the scientific journal *Ecological Applications*. (Carroll, R. et al. 1996. *Ecological Applications* 6(1): 1-11.)

Society for Conservation Biology (SCB): Established in 1985, this premier organization of conservation scientists and resource managers published in the *Journal Conservation Biology* a statement on peer review entitled, "Independent Scientific Review in Natural Resource Management." (Meffe et al. 1998. *Conservation Biology* 12(2): 268-70)

species does not extend far beyond a taxonomic description and a coarse geographic distribution. That lack of data should not be the basis for failure to list a species if other information is available to indicate that listing is otherwise warranted. The act calls for the use of the best scientific data available in the decision-making process. It does not, and should not, require that all desirable data be available at the time of listing." (NAS, p. 145)

- "There will always be uncertainty in the estimates of risk used to trigger decisions under the ESA, requiring policies and processes for making decisions with incomplete and uncertain data... For a variety of statistical reasons, including those pertaining to availability of data, protection would be more likely if the burden were to show that a proposed action would not harm a listed species rather than to show that it would." (NAS, p. 138)

- "More information almost always seems better to those trained as cautious natural resource scientists. Yet, too much risk aversion, or fear of making the wrong decision based on limited information, can be crippling." (NAS, 126)

- "Although most of these models have shortcomings, they do provide valuable insights into the potential impacts of various management (or other) activities and of recovery plans." (NAS, 112)



MYTH: Independent scientific review or peer review is lacking under the ESA and is therefore necessary before any management decisions are made.

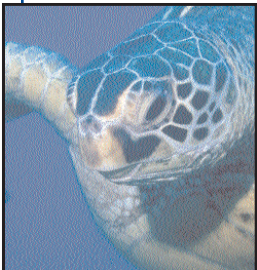
REALITY: A peer review policy already exists for federal agencies under the ESA for listing, recovery, and special circumstances or controversial cases. Peer review should not delay important ESA decisions.

- The existing peer review policy for US Fish and Wildlife and the National Marine Fisheries states that for listing, the agencies must "solicit the expert opinions of three appropriate and independent specialists regarding pertinent scientific or commercial data." For recovery, the agencies must "utilize the expertise of and actively solicit independent peer review to obtain all available scientific and commercial information." In addition, for controversial cases, the services will also conduct a special independent peer review "when it is likely to reduce or resolve the unacceptable level of scientific uncertainty." (Endangered and Threatened Wildlife and Plants: Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities, Federal Register, Vol. 59, July 1, 1994)

- "For species deserving protection, delaying the decision to provide protection and recovery will bring most of these vulnerable species even closer to the brink of extinction, restrict the options available for achieving recovery, and increase the eventual cost of the recovery process." (ESA)

- "Adding independent peer review or other administrative processes to the listing process would unnecessarily lengthen the time to make a listing decision without providing any substantial benefits. The major problem with the listing process has been its slowness, not inadequacy of the quality of the listing decisions." (ESA)

- "An ISR [Independent Scientific Review] should be employed in a flexible manner appropriate to each situation; a prescribed, centralized, "one-size-fits-all" approach is unlikely to improve good decision making and may in fact hinder it." (SCB, p. 269)



MYTH: More land is being tied up through critical habitat designations than is necessary for species' survival. Critical habitat should be restricted to areas a species occupies when listed.

REALITY: Emphasis should be placed on recovery, not just survival in designating critical habitat, therefore usually more habitat is needed than what the species occupies when listed.

- "Because loss of habitat is the cause of endangerment of most species, designation and preservation of habitat is a vital part of Endangered Species Act procedures. Because recovery is a long-term, not a short-term process, and the goal of the Act is to preserve species in perpetuity, enough habitat must be preserved to allow the species to survive in the long term." (ESA)