Order Code RS21500
Updated July 16, 2003

The Endangered Species Act (ESA), "Sound Science," and the Courts

name redacted
Legislative Attorney
American Law Division

Summary

Decisions to list species under the Endangered Species Act (ESA) must rest only on the best available scientific data, and science plays a part in other important aspects of the Act. Yet many times the relevant science may be complex or incomplete. Recent situations involving economic and social conflicts over resources have resulted in a renewed focus on and criticism of how science is used under the ESA. This report reviews how some courts have regarded these issues. It will be updated as developments warrant.

Background. The Endangered Species Act (ESA)[1] was enacted to conserve listed species – to bring them to the point where they do not need the special protections of the Act[2] – and to protect the ecosystems of which dwindling species are a part.[3] Dwindling species often reflect endangered resources or ecosystems. Recent situations[4] in which there have been economic and social disruptions as a result of listings under the ESA have resulted in a renewed focus on the protective posture of the Act[5] and on the use of science under it. All agree that ESA decisions should be based on "sound science,"[6] but that phrase can mean different things to different people, and accusations of "junk science" have been vigorously exchanged.

---

[1] P.L. 93-205, 87 Stat. 884, 16 U.S.C. §§1531 *et seq.*

[2] Section 3(3), 16 U.S.C. §1532.

[3] Section 2(b), 16 U.S.C. §1531(b).

[4] See, *e.g.*, CRS Report RL31098, *Klamath River Basin Issues: An Overview of Water Use Conflicts*, which discusses the conflicts over water use in that area.

[5] See Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978).

[6] For a complete discussion of the use of science in general and agency scientific standards in particular, see CRS Report RL31546: *The Endangered Species Act and Science: the Case of Pacific Salmon*.

The ESA requires that decisions to list a species be made "solely on the basis of the best scientific and commercial data available ...." There is no elaboration on the meaning of this phrase in the law itself or in agency regulations, but the legislative history indicates that science alone is to be the basis for listing decisions, although other factors may be considered in post-listing decisions and actions.[7] Science plays an important role in the designation of critical habitat, in the consultation process, in the development of habitat conservation plans and incidental take permits (that allow listed species to be killed under certain conditions), and in the development of recovery plans.

However, given that the Act addresses species that almost by definition are likely to be rare, there may be insufficient information on many species facing extinction, or insufficient personnel or funds available to conduct necessary studies. What should be done in such instances? The Act does not expressly address this question, but considering the strongly protective purpose of the Act – to save and recover species – with the wording of "best ... data *available*," arguably the Act intends that all dwindling species should be given the benefit of the doubt and a margin of safety provided. This is the position taken in the conference report and agency documents.[8] The Fish and Wildlife Service (FWS) and NOAA Fisheries have developed joint policies on information standards, use of expert opinions and peer review.[9]

Judicial review – in general. Judicial review can help ensure that an agency's use of scientific data and the decisions based on it are sound. Under the Administrative Procedure Act, a court may set aside an agency's decision if it is "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law."[10] "Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."[11] The agency must "examine the relevant data and

---

[7] The word "solely" was deliberately added in the 1982 amendments to the ESA (P.L. 97-304, 96 Stat. 1411) to clarify that the determination of endangered or threatened status was intended to be a biological decision made without reference to economic or other "non-biological" factors. H.Rept. 97-567 at 19-20 (1982) discussed why listing was to be solely a scientific decision and also interpreted "commercial data" as referring to trade data and not as inferring that economic factors were to be considered. H.Rept. 97-835 at 19 (1982) confirms that it was the intent of both chambers that economic factors not play a role in the designation and listing of species for protection.

[8] See Fish and Wildlife Service Handbook at 1-6 and H.R. Conf. Rep. No. 96-697 at 12 (1979), which stated that the "best information available" language was intended to allow the FWS to issue biological opinions even when inadequate information was available, rather than being forced to issue negative opinions, thereby unduly impeding proposed actions. An agency has the duty to show its actions will not jeopardize a species and a continuing obligation to make a reasonable effort to develop additional information, and "to give the benefit of the doubt to the species."

[9] 59 Fed. Reg. 34271 (July 1, 1994).

[10] 5 U.S.C. § 706(2)(A).

[11] Motor Vehicle Manufacturers Association v. State Farm Mutual Automobile Insurance Co., (continued...)

articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made."[12] In reviewing agency action, the courts generally are "highly deferential" to the agency.[13] This is especially true with respect to matters, such as scientific issues, that involve the agency's particular expertise.[14] These standards may require that regulation under the ESA be rationally related to the problems causing the decline of a species, especially when other interests are adversely affected.

Judicial review of the use of science. Courts that have considered the "best data available" language have held that it does not require (and hence a court lacks the authority to order) an agency to conduct studies to obtain missing data.[15] However, an agency cannot ignore available biological information,[16] especially if the ignored information is the most current,[17] or is scientifically superior to that which the decision-maker relied on. Nor can an agency treat one species differently from the way other similarly-situated species are treated.[18] The agency may not postpone listing a dwindling species until it is on the brink of extinction in reliance on possible, but uncertain, future actions of an agency.[19] A court also has said that "the 'best scientific and commercial data available' is not a standard of absolute certainty, and [is] a fact that reflects Congress' intent that the FWS take conservation measures before a species is 'conclusively' headed for extinction."[20] If the FWS does not base its listings on speculation or surmise, or disregard superior data, the fact that the studies it does rely on are imperfect does not undermine those authorities as the best scientific data available -- " the Service must utilize the best scientific ... data *available,* not the best scientific data *possible*."[21]

On the other hand, an agency's response must be appropriate to the problem; one case struck down regulations that totally banned duck hunting in an area in order to protect one species of duck.[22] Another case stated that low numbers of a particular species alone do not necessarily warrant listing – the reasons for the low numbers,

---

[11] (...continued)
463 U.S. 29, 43 (1983); Okeeffe's, Inc. v. U.S. Consumer Product Safety Commission, 92 F.3d 940, 942 (9th Cir. 1996).

[12] Motor Vehicle Mfrs., *supra*, at 43; Dioxin/Organochlorine Center v. Clarke, 57 F. 3d 1517, 1525 (9th Cir. 1995).

[13] Ethyl Corporation v. Environmental Protection Agency, 541 F. 2d 1, 34 (D.C. Cir. 19976), cert denied, 426 U.S. 941 (1976).

[14] Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 377 (1989).

[15] Southwest Center for Biological Diversity v. Babbitt, 215 F.3d 58 (D.C. Cir. 2000).

[16] Connor v. Burford, 848 F.2d 1441 (9th Cir. 1988).

[17] Southwest Center for Biological Diversity v. Babbitt, 926 F. Supp. 920 (D.C. Ariz. 1996).

[18] *Id.*

[19] Biodiversity Legal Foundation v. Babbitt, 943 F. Supp. 23 (D. D.C. 1996).

[20] Defenders of Wildlife v. Babbitt, 958 F. Supp. 670, 680 (D. D.C. 1997).

[21] Building Industry Ass'n of Sup. Cal. v. Norton, 247 F.3d 1241, 1246-1267 (D.C. Cir. 2001), *cert. denied* 2002 U.S. LEXIS 479.

[22] Connor v. Andrus, 453 F. Supp. 1037 (W.D. Tx. 1978).

whether the numbers are declining, and how experts view the population numbers must be considered.[23]

Another court stated that the bar the FWS must clear in terms of evidence is very low, but it must at least clear it and, in the context of issuance of "Incidental Take Permits" under §10 of the Act, this means the agency must demonstrate that a species is or could be in an area before regulating it, and must establish the causal connection between the land use being regulated and harm to the species in question. Mere speculation as to the potential for harm is not sufficient.[24]

Courts have held that the agencies basically must rely on existing regulatory mechanisms in making listing determinations, and not on future or uncertain actions to justify a decision not to list a species.[25] In *Oregon Natural Resources Council v. Daley (ORNC)*,[26] the court found that a NMFS rule determining the Oregon Coast salmon Ecologically Significant Unit (ESU) not to be threatened was arbitrary and capricious in that NMFS had relied on improper factors in reaching its decision and acted contrary to the administrative record: NMFS had relied in part on a state plan to improve conditions for the salmon that was voluntary and was to occur in the future,[27]resulting in a decision that flew in the face of the agency's scientific evaluations in the record. See also *Federation of Fly Fishers v. Daley*,[28] which agreed with the *ONRC* case regarding relying on voluntary and future actions in the face of scientific studies indicating listing was needed, but see also *Defenders of Wildlife v. Babbitt*,[29] which did allow reliance in part on cooperative conservation efforts in a case where the state plan was not the sole basis for the agency's decision.

A federal district court held in March 2002 that the economic analysis supporting a designation of critical habitat was insufficiently specific.[30] The court found that looking only at the economic impacts that designation of critical habitat caused that were in excess of those attributable to listing a species was illegal. The problem the court saw with the agency approach is that the economic costs of listing that should be considered when designating critical habitat wind up being left out of consideration entirely. (But see an earlier decision, also in the district court for the District of Columbia, *Trinity County*

---

[23] See Southwest Center for Biological Diversity v. Norton, Civ. Action No. 98-934, 2002 U.S. Dist. LEXIS 13661, at *35 - *38 (D.D.C. July 29, 2002).

[24] Arizona Cattle Growers Association v. United States Fish and Wildlife Service, 273 F.3d 1229 (9th Cir. 2001).

[25] Southwest Center for Biological Diversity v. Norton, *supra*, at *27, citing Biodiversity Legal Foundation v. Babbitt, 943 F. Supp. 23, 26 (D. D.C. 1996) and Oregon Natural Resources Council v. Daley, 6 F. Supp. 2d 1139, 1153-1154 (D. Or. 1998).

[26] 6 F. Supp. 2d 1139 (D. Or. 1998)

[27] *Id.*, at 1154, 1158. Although there was a Memorandum of Agreement with the State, either party could readily terminate it and additional action from the state legislature was required.

[28] 131 F. Supp. 2d 1158 (N.D. Cal. 2000).

[29] 97-CV-2330, 1999 U.S. Dist. LEXIS 10366 (S.D. Cal. 1999).

[30] New Mexico Cattle Growers Association v. United States Fish and Wildlife Service, 248 F. 3d 1277 (10th Cir. 2001).

Concerned Citizens v. Babbitt, 92-1194 (D.D.C. September 20, 1993), which held that consideration at the critical habitat stage of the costs associated with listing is prohibited under the ESA.)[31] Although the *New Mexico Cattle Growers* case related to habitat for a bird, it has influenced another case related to salmon. A consent decree was approved April 30, 2002 that vacated 19 critical habitat designations for salmon and steelhead in the district court case *National Association of Home Builders v. Evans.*[32] In vacating the designations, the court called "persuasive" the Tenth Circuit's decisions in the *New Mexico Cattle Growers* case.

Many cases have been filed involving water flows and uses in the Klamath River Basin, and some have challenged the science underpinning the flow releases and operation of federal water resources projects in the Upper Basin area and resulting effects on salmon populations. Fishermen successfully obtained an injunction preventing the Bureau from sending irrigation deliveries to the Upper Klamath Project when required downstream flows were not met, until the Bureau completed ESA consultation on an operating plan.[33] Suit has also been filed by the fishermen and others after the death of over 30,000 salmon in 2002, claiming that the Bureau's 10-year operating plan for the Klamath Project violates the ESA. Several area counties, including Trinity, Humboldt, Arcata, Eureka, Fortuna, and Del Norte, have joined the suit as friends of the court. The suit will probe the science surrounding the plan and seeks to invalidate the Klamath Biological Opinion (BiOp) and its reasonable and prudent alternative (RPA) for the 10-year plan. A NMFS employee has given sworn pretrial testimony that NMFS ignored opinions of agency biologists in approving the 10-year Plan and declined to conduct the analyses necessary to demonstrate that the Plan would not jeopardize salmon.

Trinity River flows. Suit has also been filed to challenge the Record of Decision setting Trinity River flows. The Trinity flows into the Klamath, but much of its water is diverted and sent to California's Central Valley. Some reports state that many of the fish that died in the Klamath River in late summer 2002 were attempting to return to the Trinity. In 1992 Congress ordered studies of Trinity fisheries and then Secretary Babbitt decided in 2000 to send more water down the Trinity to scour the river and make the river more habitable for salmon, which would have resulted in less water for the Central Valley and Westlands Water District. A FWS study found that higher releases from Trinity Dam would cool the Trinity River and counteract the warm Klamath downstream, making the water safer for salmon. However, in *Westlands Water District v. United States Department of the Interior*,[34] plaintiffs raised several challenges to Interior's administration of the Trinity River Division of the Central Valley Project, alleging "maladministration" of the ESA by both NMFS and FWS and various NEPA violations. A preliminary injunction was issued on March 22, 2001 that limited releases down the Trinity to 368,600AF annually. On December 9, 2002, the court in *Westlands* issued an unpublished memorandum decision that, in the main, granted relief to the plaintiffs, finding several defects in the Final EIS that accompanied the Record of Decision on the

---

[31] On this subject see 7 *Endangered Species & Wetlands Report*, May, 2002, p.1.

[32] 00-2799 CKK (D.D.C. 2002)

[33] Pacific Coast Federation of Fishermen's Association v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228 (N.D. Cal. 2001).

[34] 2002 U.S. Dist. LEXIS 25905 (E.D. Cal. 2000).

Trinity, and with agency actions under the ESA. Notably, the court found that the FWS exceeded its authority by requiring as one of the "reasonable and prudent measures" (RPMs) set out by FWS as part of its incidental take statement regarding the long-term operating plan for the Trinity that Interior prevent upstream movement of "X2" water quality standard, thereby impermissibly requiring a major change in operations. Under the relevant regulations, a reasonable and prudent measure could only require minor changes. The court also set aside NMFS' RPM, asserting that "[e]ssentially what NMFS did was require that the Preferred Alternative be implemented to minimize the effects of implementing the Preferred Alternative."[35] The court also faulted Interior's choice of flow levels because they were based on analysis that failed to consider non-flow measures or secondary statutory objectives – grounds on which the court also faulted the EIS that accompanied the Decision. The court, however, did note that the Secretary's decision was not arbitrary or capricious merely because the science on which it rested was not certain, as long as the decision was based on the best available scientific data, however inexact. The court also noted the congressional directions to restore the Trinity and to meet federal obligations to the Tribes who had intervened as Defendants. Therefore, the court directed Interior to expedite preparation of a Supplemental EIS within 120 days (which would be in April, 2003) to cure the EIS defects, but enjoined flows in excess of 452,600 AF in the meantime. The Hoopa Tribe has appealed, was denied a stay by the district court, and has asked the appellate court for an emergency stay of the district court's decision. The district court did, however, authorize the Department to release up to an additional 50,000 AF of water if necessary in water year 2003. Although the Department has filed a Notice of Appeal, it did not request either additional flows or a stay of the district court decision.

---

[35] 2002 U.S. Dist. LEXIS 25905 at *172 - 173. It is possible that the RPM required that certain *parts* of the agency action (flow volumes) be undertaken immediately in order to minimize adverse impacts that could result from implementation of other parts of the overall agency action (gravel movement/stream rehabilitation).