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# Beyond Shooting Snaildarters in Porkbarrels: Endangered Species and Land Use in America

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# Beyond Shooting Snail Darters in Pork Barrels: Endangered Species and Land Use in America

GEORGE CAMERON COGGINS\*

IRMA S. RUSSELL\*\*

*The Court today holds that § 7 of the Endangered Species Act requires a federal court, for the purpose of protecting an endangered species or its habitat, to enjoin permanently the operation of any federal project, whether completed or substantially completed. This decision casts a long shadow over the operation of even the most important projects*

...  
*TVA v. Hill*, 437 U.S. 153, 195 (1978) (Powell, J., dissenting).

Legal protection for wildlife and plant species under the Endangered Species Act of 1973 (ESA)<sup>1</sup> could develop into a significant control on land use and related activities in the United States during the 1980's. The Act already has had a profound, if scattered, effect. As of this writing, a massive oil refinery long proposed for the coast of Maine remains on the drawing board because of its claimed consequences for protected eagles and whales.<sup>2</sup> In Tennessee the proposal for the Columbia Dam on the Duck River ran aground on shoals of endangered mussels and snails.<sup>3</sup> Other dams and diversion projects in Oklahoma and Colorado have encountered similar barriers.<sup>4</sup> In Wyoming, the sponsors of a water power facility had to spend millions of dollars over their budget after litigation forced expensive alterations to accommodate the stopover requirements of migrating whooping cranes.<sup>5</sup> A sale of oil and gas leases north of Alaska was temporarily enjoined for fear of harm to

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1. 16 U.S.C. §§ 1531-1543 (1976 & Supp. IV 1980).

2. See *Pittston Co. v. Endangered Species Comm.*, 14 Env't Rep. Cas. (BNA) 1257, 1259 (D.D.C. 1980) (Environmental Protection Agency (EPA) withheld discharge permit for refinery planned in 1972 because of jeopardy to continued existence of bald eagle and humpback whale); see also *infra* notes 733-46 and accompanying text (discussing *Pittston*).

3. See *Pacific Legal Found. v. Andrus*, 657 F.2d 829, 831-32 (6th Cir. 1981) (construction of dam stopped in 1977); see also *infra* notes 186-201 and accompanying text (discussing *Pacific Legal Foundation v. Andrus*).

4. *Endangered Species Oversight Hearings (H.R. 10,883) Before the Subcomm. on Fisheries and Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries*, 95th Cong., 2d Sess. 109-10 (1978) (statement of Rep. Watkins) (one reason for "scrubbing" Lukfata Dam in Oklahoma was dam's effect on leopard darter) [hereinafter *1978 ESA Hearings*]; see *infra* notes 206-30 and accompanying text (discussing suit brought by water districts in Colorado seeking declaration that listings of several endangered species were invalid).

5. See *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156, 1181 (D. Neb. 1978) (successful challenge to Rural Electrification Administration (REA) loan guarantee and Corps of Engineer dredge and fill permit for construction of Grayrocks Dam because of jeopardy of whooping crane); *infra* notes 297-309 and accompanying text (discussing *Nebraska v. Rural Electrification Admin.*).

the bowhead whale and other wildlife,<sup>6</sup> and several other lease sales have been challenged on similar grounds.<sup>7</sup> The 1.2 billion dollar Dickey-Lincoln water project proposal for Maine was held in abeyance for years because it would have inundated the only known habitat of the Furbish lousewort, an endangered variety of snapdragon.<sup>8</sup> The suspected presence of the elusive Houston toad has complicated development in that city.<sup>9</sup> Developers have held the equally unlovely Colorado river squawfish responsible for retarding progress on water development in Colorado,<sup>10</sup> and the woundfin minnow for holding up a salinity project and a synfuels complex in Utah.<sup>11</sup> These and other similar instances of the Act's impact involve a physical project or facility to be constructed or licensed by an agency of the federal government. In that respect, each case is similar to the Tellico Dam, the TVA project halted just short of completion by the Snail Darter litigation.<sup>12</sup> The area of future conflicts between new facilities—particularly energy-related projects—and depleted wildlife species promises to be a lively legal battlefield.

Federal facilities are only a part of the story: numerous other public and private undertakings also run the risk of severe curtailment if they adversely affect endangered or threatened species. Several decisions already have established some principles and trends. In Minnesota a court protected wolves suspected of killing cows from an irate farmer and overzealous government hunters.<sup>13</sup> Hunting and trapping of nonendangered species have been outlawed or limited to protect indirectly species that are or may be in danger.<sup>14</sup> Use of water rights has been affected,<sup>15</sup> and forest<sup>16</sup> and marine<sup>17</sup> management

6. See *North Slope Borough v. Andrus*, 486 F. Supp. 332, 364 (D.D.C.) (lease sale may not proceed until biological opinion completed), *injunction vacated*, 642 F.2d 589 (D.C. Cir. 1980); see also *infra* notes 351-58 and accompanying text (discussing *North Slope Borough v. Andrus*).

7. See *Conservation Law Found. v. Andrus*, 623 F.2d 712, 714 (1st Cir. 1979) (Georges Bank sale challenged on ESA grounds); *California v. Watt*, 520 F. Supp. 1359, 1386-89 (C.D. Cal.) (Santa Maria Basin sale challenged on ESA grounds), *aff'd*, 668 F.2d 1290 (D.C. Cir. 1981).

8. See Irwin, *Miss Furbish's Lousewort Must Live*, reprinted in *1978 ESA Hearings*, *supra* note 4, at 386-89 (discussing impact of proposed Dickey-Lincoln water project on Furbish lousewort).

9. See 43 Fed. Reg. 4,022 (1978) (comments on critical habitat designation for Houston toad).

10. See *Colorado River Water Conservation Dist. v. Andrus*, Cir. No. 78-A-1191 (D. Colo. Aug. 3, 1981) (interlocutory decision), discussed *infra* at notes 206-30; see also *Colorado River Water Conservation Dist. v. Andrus*, 476 F. Supp. 966, 968 (D. Colo. 1979) (developers of water project claimed designation of Colorado River squawfish and humpback chub as threatened species caused construction delay).

11. *1978 ESA Hearings*, *supra* note 4, at 404-08 (statement of Ival Goslin, Exec. Dir. of the Upper Colorado River Comm.) (anticipating disruption of salinity control project if critical habitat for woundfin minnow designated).

12. See *TVA v. Hill*, 437 U.S. 153, 172-73 (1978) (survival of "three-inch fish" requires permanent halting of virtually complete dam costing over \$100 million).

13. *Fund for Animals v. Andrus*, 11 Env't Rep. Cas. (BNA) 2189, 2200 (D. Minn. 1978) (Fish and Wildlife Service (FWS) regulations under ESA, authorizing taking of "depredating wolf," impose burden on agency to insure that each wolf it takes is actually depredating).

14. *Defenders of Wildlife v. Andrus*, 428 F. Supp. 167, 170 (D.D.C. 1977) (FWS regulations permitting twilight hunting of migratory birds deemed arbitrary and unlawful because administrative record inadequate to show regulations would not result in some killing of protected species). *But cf.* *Connor v. Andrus*, 453 F. Supp. 1037, 1041-42 (W.D. Tex. 1978) (FWS regulations prohibiting all duck hunting in designated portions of New Mexico and Texas to protect endangered Mexican duck held arbitrary and invalid because administrative record failed to demonstrate that hunting threatens Mexican duck).

15. In *Cappaert v. United States*, 426 U.S. 128 (1976), the United States Supreme Court enjoined landowners adjacent to a national monument from pumping groundwater that would destroy the breeding habitat of the endangered Devil's Hole pupfish. *Id.* at 147. The decision was not based on the ESA, but rather on the ground that the pupfish is an integral part of the monument and the water necessary for breeding was impliedly reserved. *Id.*

practices have been challenged, because of their effects on endangered species. In Hawaii a federal court enjoined continuance of a popular state hunting program as a violation of the Endangered Species Act.<sup>18</sup>

These decisions may be the first wave in a flood of land use disputes triggered by constraints imposed by the Endangered Species Act of 1973. This unique federal law is one of the few nearly absolute standards governing management of the American natural legacy. Section 7 of the Act commands federal agencies to conserve listed species, to consult with the Fish and Wildlife Service, and to ensure that their actions do not jeopardize a species or harm its critical habitat.<sup>19</sup> As interpreted in *TVA v. Hill*,<sup>20</sup> the 1978 Snail Darter case, section 7 creates a private right of action to enjoin federal projects that jeopardize the continued existence of a species, however economically insignificant.<sup>21</sup> The snail darter problem was simple compared to the many hard questions of ESA interpretation that have not yet surfaced.

One focus of future dispute will be section 9 of the Act,<sup>22</sup> which, among other things, forbids absolutely the "taking" of a listed species by any person in any place subject to the jurisdiction of the United States.<sup>23</sup> Although section 9 has not achieved the notoriety of section 7, its "taking" provisions have been interpreted to bar harmful land uses not within the ambit of section 7.<sup>24</sup>

Some critics of Congress have opined that the amendments to the ESA in 1976,<sup>25</sup> 1978,<sup>26</sup> and 1979<sup>27</sup> have lessened potential land use friction by emasculating the Act's basic protective scheme.<sup>28</sup> That concern became more acute

16. In *Texas Comm. on Natural Resources v. Bergland*, 433 F. Supp. 1235 (E.D. Tex. 1977), *rev'd*, 573 F.2d 201 (5th Cir.), *cert. denied*, 439 U.S. 966 (1978), the district court enjoined timber harvesting in a national forest until the Forest Service could prepare and obtain court approval of an environmental impact statement. *Id.* at 1253-54. The court rejected plaintiffs' claim that because the endangered red-cockaded woodpecker lived in such mature pine stands, the timber sale violated the ESA. *Id.* at 1244. The injunction was lifted on appeal. 573 F.2d at 208, 212 (environmental impact statement not required). See also Lachenmeier, *The Endangered Species Act of 1973: Preservation or Pandemonium?*, 5 ENVTL. L. 29 (1974) (ESA affects federal land use policy).

17. *Cayman Turtle Farm, Ltd. v. Andrus*, 478 F. Supp. 125, 127 (D.D.C. 1979) (upholding FWS and National Marine Fisheries Service regulations prohibiting all importation of sea turtles listed as threatened and endangered with no exception for commercial mariculture operations). See *infra* text accompanying notes 178-85 (discussing *Cayman Turtle Farm, Ltd. v. Andrus*).

18. *Palila v. Hawaii Dep't of Land & Natural Resources*, 471 F. Supp. 985, 999 (D. Hawaii 1979) (state maintained herds of feral sheep and goats for benefit of hunters, and feral animals ate plants on which endangered palila relied for subsistence), *aff'd*, 639 F.2d 495 (9th Cir. 1981); see *infra* notes 359-84 and accompanying text (discussing *Palila*).

19. 16 U.S.C. § 1536(a) (Supp. IV 1980).

20. 437 U.S. 153 (1978).

21. *Id.* at 172-73. The Court stated that although the snail darter had no commercial value, it had, in the eyes of Congress, "incalculable" worth. *Id.* at 187-88.

22. 16 U.S.C. § 1538 (1976 & Supp. IV 1980).

23. *Id.* § 1538(a)(1)(B) (1976). "Taking" is a term of art that ordinarily means killing or capturing; the ESA, however, significantly expands the definition. *Id.* § 1532(19) (Supp. IV 1980). See *infra* notes 324-43 and accompanying text (discussing meaning of "taking" in ESA).

24. See *infra* notes 359-86 and accompanying text (discussing broad interpretation of § 9 of ESA).

25. Act of July 12, 1976, Pub. L. No. 94-359, 90 Stat. 911.

26. Act of Nov. 10, 1978, Pub. L. No. 95-632, 92 Stat. 3751. See *infra* notes 387-548 and accompanying text (discussing 1978 Amendments to ESA).

27. Act of Dec. 28, 1979, Pub. L. No. 96-159, 93 Stat. 1225.

28. One author commented that the 1978 ESA amendments "clearly reflect a congressional retreat from the 1973 unequivocal commitment to the continued viability of endangered and threatened species against any interference from federal public works projects." Stromberg, *The Endangered Species Act Amendments of 1978: A Step Backwards?*, 7 B.C. ENVTL. AFF. L. REV. 33, 35 (1978). Another wrote that Congress went beyond its initial purpose of introducing flexibility into the ESA and signifi-

with the advent of the Reagan Administration; Secretary of the Interior Watt has announced an intention to de-emphasize endangered species protection.<sup>29</sup> Despite these statutory and bureaucratic adjustments, however, the basic protections afforded by the Act remain intact. As long as private individuals and organizations remain willing to enforce the ESA by bringing lawsuits, land use controversy is inevitable.

The number of instances in which the welfare of a plant or wildlife species may interfere with proposed human uses of land is staggering. Estimates of the number of species on earth range toward ten million,<sup>30</sup> not counting subspecies or isolated populations.<sup>31</sup> In 1981 fewer than a thousand species were officially listed by the Department of the Interior as "endangered" or "threatened,"<sup>32</sup> but some biologists assert that perhaps one million species may be eliminated by the end of the century.<sup>33</sup> The domestic and worldwide lists will grow rapidly—perhaps exponentially—if the listing authority follows scientific discovery and classification.<sup>34</sup> Dire predictions of extinction rates so common in recent years,<sup>35</sup> have been given credibility by the estimate in Global 2000 Report that fifteen to twenty percent of present species on earth could be extinct by the year 2000.<sup>36</sup> The debate over whether such consequences are catastrophic or insignificant need not be joined; the United States Congress has concluded that the death of even one species, anywhere, is a disaster to be avoided at nearly all costs.<sup>37</sup>

The legal disputes which center around competition between endangered species protection and human land and resource development go deeper than money. The passage of the ESA in 1973 represents a culmination of certain

cantly weakened the Act. Goplerud, *The Endangered Species Act: Does it Jeopardize the Continued Existence of Species?*, 1979 ARIZ. ST. L.J. 487, 499.

29. See Drew, *Secretary Watt*, NEW YORKER, May 4, 1981, at 104, 130, 132 (Secretary's emphasis switched to recovery plans).

30. See N. MYERS, *THE SINKING ARK* 14 (1979) (estimating that there are anywhere from five to ten million species on earth).

31. "Species" has been defined as a group of individuals that interbreed, but classification is less than an exact science. Often taxonomic classification of plants and animals does not end at the species level: subspecies and populations within a species can be identified on the basis of reproductive compatibility or geographical isolation, or even by the presence of one differing genetic trait. Whether the classifier is a "splitter" or a "lumper," the number of subspecies may be three to five times the number of species. See Wood, *On Protecting an Endangered Statute: The Endangered Species Act of 1973*, 37 FED. B.J. 25, 27 (1978) (quoting FWS Associate Director Schreiner). See generally Ramsay, *Priorities in Species Preservation*, 5 ENVTL. AFF. 595, 599-601 (1976) (discussing taxonomy).

32. The list of endangered and threatened species as updated is found at 50 C.F.R. §§ 17.11, .12 (1981). The distinction between the two categories is discussed at notes 162-69 *infra* and accompanying text.

33. N. MYERS, *supra* note 30, at 3-5.

34. See *id.* at 15-18 (estimate of number of species has risen from three million in the 1960's to 10 million in the 1970's).

35. See, e.g., S. REP. NO. 307, 93d Cong., 1st Sess. 2 (1973) (one species a year becomes extinct; 109 domestic species threatened with extinction); COUNCIL ON ENVIRONMENTAL QUALITY, *THE SIXTH ANNUAL REPORT* 408 (1975) (10 percent of surveyed species in the United States may be endangered or threatened); N. MYERS, *supra* note 30, at 5 (one species an hour could become extinct by late 1980's).

36. An estimate of extinction prepared for the Global 2000 Report to the President predicts that between five hundred thousand and two million species—15 to 20 percent of all existing species—could be extinct by the year 2000. T. LOVEJOY, *A PROJECTION OF SPECIES EXTINCTIONS* 328-31 (1979).

37. See *TVA v. Hill*, 437 U.S. 153, 184 (1978) (plain intent of Congress in enacting ESA was to halt and reverse trend toward species extinction, whatever the cost); *id.* at 187 (Congress viewed value of endangered species as "incalculable"); H.R. REP. NO. 412, 93d Cong., 1st Sess. 4 (1973) (ESA needed to preserve genetic heritage of incalculable value).

altruistic strains in natural resources thought.<sup>38</sup> The ESA is a societal recognition, or creation, of a general right in other animate creatures to exist. It is a partial reversal of the traditional legal view that consigned them to the status of object over which God gave man absolute dominion.<sup>39</sup> Congressional sponsors of the Act believed, however, that in the long run protection of species in danger of extinction is more than simple altruism. Fish and wildlife are valuable and renewable natural resources, and recovery of wildlife species to abundance serves human and national goals of an economic as well as aesthetic or moral nature.<sup>40</sup> The emerging law of endangered species is one of the more radical forms of conservation through law.<sup>41</sup>

Every effective conservation measure necessarily impinges upon some human economic interest.<sup>42</sup> Congress nevertheless decided in 1973 that the drastic plight of wildlife required a drastic remedy and that profit was an insufficient justification for what it saw as a biological calamity. But in making this commitment to species preservation, congressional leaders did not foresee all of the potential ramifications of their legislative creation.<sup>43</sup> Nor do the amendments to the Act in the wake of the Snail Darter case resolve all of the land use problems inherent in the original language. The interests of both developers and preservationists will be served by clarification.

This article examines endangered species law as it may affect land use in the United States. The first section describes the legal and biological contexts into which the ESA intruded. Section II outlines the protective mechanisms established by the 1973 version of the Act and their reception by the courts. The third section discusses the corrective amendments to the Act enacted in 1978. The final section indulges in the hazardous business of forecasting: it applies the law as it has developed and as it is likely to evolve to a series of more or less hypothetical land use conflicts. It portends multiplication of the disputes between endangered species and human desires.

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38. The evolution of human attitudes towards things wild is traced in McCloskey, *The Wilderness Act of 1964: Its Background and Meaning*, 45 OR. L. REV. 288 (1966). Cf. Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1248 (1968) (restrictions on land use are response to overpopulation).

39. The biblical basis for the notion is in *Genesis* 1:26-28. See generally Burr, *Toward Legal Rights for Animals*, 4 ENVTL. AFF. 205, 205 (1975) (man has viewed animals as objects that exist for his use); Coggins & Smith, *The Emerging Law of Wildlife: A Narrative Bibliography*, 6 ENVTL. L. 583, 588-94 (1976) (wildlife historically considered property); Favre, *Wildlife Rights: The Ever-Widening Circle*, 9 ENVTL. L. 241, 241-43 (1979) (discussing historical attitudes towards animal rights).

40. The 1973 hearings and debates are replete with references to the potential benefits that would be foregone if species were rendered extinct. See H.R. REP. NO. 412, 93d Cong., 1st Sess. 5 (1973) (preserving genetic variation of species is in best interest of mankind); cf. Sagoff, *On the Preservation of Species*, 7 COLUM. J. ENVTL. L. 33, 45 (1980) (Congress in passing 1978 amendments to ESA did not intend to preserve every species regardless of cost).

41. The word "conservation" was coined by Gifford Pinchot and colleagues around the turn of the century to represent their new emphasis on resource management. S. UDALL, *THE QUIET CRISIS* 106 (1963).

42. Coggins & Ward, *The Law of Wildlife Management on the Federal Public Lands*, 60 OR. L. REV. 59, 70 (1981).

43. The Snail Darter case itself is an example. Justice Powell in dissent characterized the Snail Darter litigation as possibly "invited by careless draftsmanship of otherwise meritorious legislation" and pointed out that Congress nowhere debated the precise situation confronting the Court. *TVA v. Hill*, 437 U.S. 153, 202 n.11, 207 (1978) (Powell, J., dissenting).

## I. ENDANGERED SPECIES PROTECTION IN PERSPECTIVE

*Ultimately, we are the endangered species. Homo sapiens is perceived to stand at the top of the pyramid of life, but the pinnacle is a precarious station. We need a large measure of self-consciousness to constantly remind us of the commanding role which we enjoy only at the favour of the web of life that sustains us, that forms a foundation of our total environment . . . .*

Remarks of Senator Leahy,  
*quoted in* N. MYERS,  
 THE SINKING ARK ix-x (1979).

Although wildlife conservation was slow to emerge as a national priority,<sup>44</sup> federal wildlife law has been developing since the 1890's.<sup>45</sup> Still, by 1973 Congress thought that federal, state, and foreign regulatory systems were inadequate to protect species that seemed doomed to extinction.<sup>46</sup> The Endangered Species Act of 1973 directly addressed that specific problem, but it neither arose from nor operates in a legal or biological vacuum. It is a part of the wave of environmental legislation of the early 1970's that inundated the nation with new rules founded on moral as well as ecological precepts.<sup>47</sup> Wildlife conservation is closely related to the growth of federal involvement in many areas of national life because federal construction, licensing, or financing of a project or activity ordinarily carries with it federal strings, one of which is endangered species protection. This section first outlines the nature of the problems that Congress sought to overcome when it enacted the ESA and then discusses the general legal setting of wildlife conservation.

## A. WILDLIFE ENDANGERMENT

*It is simplistic to assert . . . that species are driven extinct through the*

44. At the federal level, the slowness was due, in part, to constitutional qualms. In 1896 the Supreme Court stated that wildlife within any state is owned by that state in trust for its people. *Geer v. Connecticut*, 161 U.S. 519, 529 (1896). In 1912 the Court strongly implied that federal regulatory power did not extend within state borders. *The Abby Dodge*, 223 U.S. 166, 173 (1912). The notion of state regulatory exclusivity was quashed in *Missouri v. Holland*, 252 U.S. 416, 434 (1920), and the notion of state property rights was eroded over the years. The Court overruled *Geer* in 1979 and held that a state statute prohibiting interstate transport of minnows seined or procured within the state violates the commerce clause. *Hughes v. Oklahoma*, 441 U.S. 322, 325 (1979). See generally M. BEAN, *THE EVOLUTION OF NATIONAL WILDLIFE LAW* 12-34 (1977) (discussing development of state ownership doctrine and federal wildlife law) (1977); Coggins, *Wildlife and the Constitution: The Walls Come Tumbling Down*, 55 WASH. L. REV. 295 (1980) (same); Coggins & Hensley, *Constitutional Limits on Federal Power to Protect and Manage Wildlife: Is the Endangered Species Act Endangered?* 61 IOWA L. REV. 1099 (1976) (same).

45. See generally M. BEAN, *supra* note 44, at 20-34 (discussing early development of federal wildlife law); Coggins, *Federal Wildlife Law Achieves Adolescence: Developments in the 1970s*, 1978 DUKE L.J. 753, 760-62 (same).

46. See Coggins, *supra* note 45, at 802 (ESA result of seven years' frustration with inadequate prior legislation, lack of state action, and progress in international negotiation for species preservation).

47. The foremost of the new laws is the National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (codified as amended at 42 U.S.C. §§ 4321-4347, 4361-4369 (1976 & Supp. IV 1980)). See *infra* text accompanying notes 128-36 (discussing NEPA).

*ignorance or stupidity or wanton destructiveness of modern man. Species disappear because of the way we prefer to live, all of us.*

N. MYERS, THE SINKING ARK xi (1979).

Categorizing some causes of wildlife population depletion may clarify the scope of the constraints imposed by the Endangered Species Act. In passing the ESA, Congress stated that endangerment results primarily from hunting and habitat destruction,<sup>48</sup> a simplistic but accurate generalization. In some cases, the factors leading to the decline of a species include the evolutionary process,<sup>49</sup> interbreeding or genetic swamping,<sup>50</sup> overzealous scientific collectors,<sup>51</sup> or changes in natural conditions.<sup>52</sup> As primary causes, these are relatively rare phenomena.<sup>53</sup> Most modern wildlife population problems stem from human activities that directly or indirectly kill members of species.

Historically, hunting has been responsible for many instances of extinction or close calls, frequently in conjunction with habitat alteration and poor species' adaptability. The bison and passenger pigeon are prominent examples, but the list is extensive. Shooting and poisoning have taken severe tolls on wolves, bears, eagles, hawks, and other predators.<sup>54</sup> Vulnerability plus human

48. S. REP. NO. 307, 93d Cong., 1st Sess. 2 (1973). Of these threats, commentators considered habitat destruction to be the greater cause of extinction. *Hearings on Endangered Species Before the Subcomm. of the House Comm. on Merchant Marine and Fisheries*, 93d Cong., 1st Sess. 236, 241, 306 (1973) [hereinafter *1973 ESA Hearings*]. See *TVA v. Hill*, 437 U.S. 153, 179 (1978) (witnesses informed Congress that principal cause of extinction is destruction of natural habitats); Lachenmeier, *supra* note 16, at 31 (both Senate and House reports state that destruction of habitat is most significant cause of species endangerment).

49. The California condor is a vestigial remnant from the ice age and may be naturally doomed, but human causes have greatly accelerated its demise. See Borland, *Take a Long, Last Look at the Condor*, NAT'L WILDLIFE, April-May 1974, at 34, 35-36 (poisoning, shooting, trapping, and disturbance of breeding areas have reduced California condor population to less than 60).

50. Genetic swamping occurs when two previously isolated but closely related species or subspecies interbreed. Forest clearing in the southeast United States, for instance, brought the coyote (*canis latrans*) into contact with the red wolf (*canis rufus*). As a result of their interbreeding, very few, if any, genetically pure red wolves remain. Ripley & Lovejoy, *Threatened and Endangered Species*, in WILDLIFE AND AMERICA 365, 371 (H. Brokaw ed. 1978). The converse of genetic swamping is speciation, the emergence of a new organism, which, because of its characteristics, habitat preference, and reproductive isolation, is a separate species. Ripley and Lovejoy point out that human intervention has accelerated both processes. *Id.*

51. For an account of one prominent ornithologist who refused to stop collecting the eggs of the endangered peregrine falcon, see N.Y. Times, Jul. 13, 1974, at 1, col. 1 (Fish and Wildlife Service imposed \$3,000 fine against Dr. Charles G. Sibley, Director of Yale University's Peabody Museum, for illegally importing birds' eggs from Britain).

52. For instance, a hurricane destroyed one half of the whooping crane population in 1910.

53. "That extinction is a natural phenomenon is sometimes advanced as an excuse for not trying to rescue endangered species. This is, of course, nonsensical because although natural extinction is very gradual, occurring over many millennia, today there is considerable additional extinction caused by human interference, so that extinction has become primarily an unnatural phenomenon." Ripley & Lovejoy, *supra* note 50, at 365. See also Asimov, *Man Stacks the Evolutionary Deck*, NAT'L WILDLIFE, April-May 1974, at 16, 19 (humankind is changing environment faster than most species can evolve).

54. In 1963, before the 1972 ban of poisons for predator control on public lands, see *infra* note 78, the Department of the Interior killed 190,763 predatory and nonpredatory animals in its animal damage control program. Cain, *Predator and Pest Control*, in WILDLIFE AND AMERICA 379, 391 (H. Brokaw ed. 1978). Shooting continues to be the major cause of bald eagle mortality, 41 Fed. Reg. 28,525, 28,526 (1976), even though it has been illegal since 1940. Bald Eagle Protection Act, ch. 278, 54 Stat. 250 (1940) (codified as amended at 16 U.S.C. §§ 668-668d (1976 & Supp. IV 1980)).

In 1971, a former pilot for a Wyoming flying service told a Senate subcommittee of killing approximately 800 eagles over Wyoming and Colorado during 1970-71. *Hearings on Predator Control and Related Problems Before the Subcomm. on Agriculture, Environmental, and Consumer Protection of the*



rapaciousness meant the demise of the great auk and the Stellar's sea cow as well as near annihilation of many marine mammal species.<sup>55</sup> Market hunters in their heyday brought innumerable birds of fine plumage and many edible species to the brink of extinction.<sup>56</sup> Commercial fishermen still deplete certain marine fish such as the Atlantic salmon;<sup>57</sup> trappers still cause significant population declines in newly profitable species such as lynx and bobcat;<sup>58</sup> and poachers still take alligators and similar sources of valuable hides.<sup>59</sup> In general, however, large-scale commercial hunting died out in this country with the rise of public outcries and controls over markets, although it continues to threaten species abroad.<sup>60</sup> Species that compete for economically valuable resources, however, often are still exterminated.<sup>61</sup> Sport hunting, now heavily

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*Senate Comm. on Appropriations*, 92d Cong., 1st Sess. 153-67 (1971). Charged with killing 366 bald and golden eagles for bounties paid by local ranchers, another pilot pleaded guilty to 75 slayings and was fined \$500; a rancher charged with killing 65 eagles was fined \$1,700 for slaying five. *Conservation News*, Jan. 1, 1973, at 3-4. Under the Bald Eagle Protection Act, 16 U.S.C. §§ 668-668d (1976 & Supp. IV 1980), violators may be sentenced to a maximum of two years in jail and a \$10,000 fine for each violation. *Id.* § 668(a) (1976). The executive vice president of the National Wildlife Federation called these fines a "piddling slap on the wrist." *Conservation News*, Jan. 1, 1973, at 3.

55. See generally P. MATTHIESSEN, *WILDLIFE IN AMERICA* 92-111 (1959) (discussing hunting of great auk, Stellar's sea cow, whale, sea otter, fur seal, and elephant seal); Hedgpeth, *Man on the Seashore*, in *WILDLIFE AND AMERICA* 163, 166, 168 (H. Brokaw ed. 1978) (discussing demise of great auk and Stellar's sea cow).

56. In an early plea for conservation of endangered species, William Hornaday exclaimed, "To-day the women of England, Europe and elsewhere are directly promoting the extermination of scores of beautiful species of wild birds by the devilish persistence with which they buy and wear feather ornaments made of their plumage." W. HORNADAY, *OUR VANISHING WILDLIFE* 7 (reprint ed. 1970) (1st ed. 1913). Hornaday declared that "[w]ith but extremely slight exceptions, the blood of slaughtered innocents is no longer upon our skirts . . . . But even while these words are being written, there is one large fly in the ointment. The store-window of E. & S. Meyers, 688 Broadway, New York, contains about six hundred plumes and skins of birds of paradise, for sale for millinery purposes. No wonder the great bird of paradise is now almost extinct!" *Id.* at 114, 116 (emphasis in original). Hornaday listed 62 species of birds outside the United States that hunters were exterminating for the feather markets. *Id.* at 119-20. By 1913 the great auk, passenger pigeon, Cuban tricolored macaw, Eskimo curlew, Labrador duck, and Pallas cormorant were extinct because they were prized for the table or for their fine plumage. *Id.* at 10-16. See also J. TREFETHEN, *AN AMERICAN CRUSADE FOR WILDLIFE* 129-30 (1975) (societies were formed in 1880's to protect wild birds from demands of high fashion).

57. See Stroud, *Recreational Fishing*, in *WILDLIFE AND AMERICA* 53, 63 (H. Brokaw ed. 1978) (heavy harvest of Atlantic salmon by Danish commercial fishers). See generally Alverson, *Commercial Fishing*, in *WILDLIFE AND AMERICA* 67, 67-85 (H. Brokaw ed. 1978) (discussing commercial cod, ocean perch, Pacific salmon, halibut, tuna, and menhaden fishing).

58. See *Defenders of Wildlife v. Endangered Species Scientific Auth.*, 659 F.2d 168, 178 (D.C. Cir. 1981) (bobcat export guidelines invalid because FWS did not establish absence of detriment to species). In 1980, five government employees were convicted of illegally selling bobcat and coyote hides worth \$100,000. *WILDLIFE NEWSLETTER*, July 1980, at 3 (published by Wildlife Section, Land and Natural Resources Div., U.S. Dep't of Justice).

59. The ESA itself tends to create poaching incentives. For instance, when the Nile crocodile was placed on the endangered species list, the reptile industry turned to less desirable species such as the American and Orinoco crocodiles. As these became scarce, the industry sought large caimans; when they in turn declined, smaller caimans were hunted to meet the market demand. The search for raw material to substitute for the species overharvested by overreaching industries has led not only the whaling industry far afield: in addition to using less desirable crocodilians when the Nile crocodile was depleted, the hide industry turned to sea turtles. Thousands of Olive Ridley sea turtles were destroyed to satisfy the market demand, and the turtle is now endangered. King, *The Wildlife Trade*, in *WILDLIFE AND AMERICA* 253, 262 (H. Brokaw ed. 1978).

60. "Prohibition of commercial dealing in wildlife was the ingenious solution American law devised to the problem of limiting takers." T. LUND, *AMERICAN WILDLIFE LAW* 105 (1980). See generally King, *supra* note 59, at 254-55 (surprisingly little trade in native game species within United States).

61. The timber wolf is the most obvious example, and other predators such as mountain lions and

regulated, is even less of a cause of species' decline than market hunting.<sup>62</sup>

Protecting species that are threatened by hunting pressures is relatively simple, at least in theory. The wildlife agency must prohibit hunting both of the species in trouble and of similar species that could be misidentified by hunters; and, as a backstop, it should prohibit all commerce, possession, or transportation of protected species to remove the incentive for poachers and to facilitate prosecution of offenders. Although the practical difficulty of enforcement undercuts the theory,<sup>63</sup> and the scarcity of the species drives up its price in illicit markets, such direct controls, when rigorously applied, generally have been effective.<sup>64</sup>

Habitat destruction, alteration, and poisoning have replaced direct killing as the dominant cause of species' declines.<sup>65</sup> Land use practices having indirect,

grizzly bears also have been decimated. See Note, *Predator Control and the Federal Government*, 51 N.D.L. REV. 787, 788-91 (1975) (extirpation of wolves).

Large predators, however, are not the only wildlife species whose demise has resulted from economic competition. Wild horses and burros, considered by ranchers on the western ranges to be pests because they compete with livestock for forage and water, were indiscriminately slaughtered before 1971. Cain, *supra* note 54, at 384. In response, Congress passed the Wild Free-Roaming Horses and Burros Act, 16 U.S.C. §§ 1331-1340 (1976 & Supp. IV 1980). Another resource conflict has been the competition between sea otters and fishermen for the valuable abalone on the California coast. Armstrong, *The California Sea Otter: Emerging Conflicts in Resource Management*, 16 SAN DIEGO L. REV. 249, 249 (1979).

62. Even so, it continues to pose three types of threats to species already in dire population trouble. The first threat is honest mistakes: some endangered species (e.g., Mexican ducks) are very similar to species that may be taken legally (e.g., common mallards). Overeager and undereducated hunters have shot whooping cranes and other endangered species unintentionally, although they are substantially dissimilar to legal game. See Conservation News, Jan. 1, 1973, at 4 (hunters claimed ignorance that bird they shot for coyote bait was golden eagle). A second threat is posed by some sport hunters who avidly collect trophies from vanishing game species. State game departments sometimes have been unable to resist pressures to allow some shooting of species that they knew should have been allowed to recover unmolested. See 1973 ESA Hearings, *supra* note 48, at 31 (statement of Tom Garrett, Wildlife Dir., Friends of the Earth) (many state wildlife commissions more interested in selling hunting licenses than in protecting endangered species). Polar bears, grizzly bears, bighorn sheep, and grey wolves all have been subjected to some legal shooting by trophy hunters. But these problems pale in comparison to the third threat, outlaw hunters who for various reasons refuse to abide by the rules. Some dilettantish sport hunters and trophy seekers scoff at seasons, limits, and conservation. Unscrupulous guides and outfitters encourage and abet their illegal ventures. See *United States v. Sandford*, 547 F.2d 1085, 1090-91 (9th Cir. 1976) (guide charged with hunting in Yellowstone National Park).

One commentator notes that the number of hunters has been reduced by the demise of subsistence hunting and trapping, the move away from traditions that demand wild game for holidays, the growing antihunting sentiment in the United States, and the drift of young people away from their hunting heritage as they move into urban areas. Reiger, *Hunting and Trapping in the New World*, in WILDLIFE AND AMERICA 42, 46 (H. Brokaw ed. 1978). But see C. AMORY, MANKIND? OUR INCREDIBLE WAR ON WILDLIFE 15 (1974) (one of chief problems in preserving endangered species is that hunting still allowed).

63. Domestic enforcement is difficult because illegal hunting is naturally an isolated and secretive business. Even murder of enforcement officials in the field by poachers is not unknown. See generally W. SIGLER, WILDLIFE ENFORCEMENT (2d ed. 1972) (discussing difficulties in enforcing wildlife laws).

International enforcement is difficult because wildlife and customs agents are often unable to identify endangered species and their parts. Customs agents must read labels on food packages printed in foreign languages to ascertain that a foreign delicacy does not contain meat from a protected whale. The agents must examine jewelry to ensure that the craftsman did not use the wing, bill, or shell of a protected species in his art. The officials must scrutinize clothing and accessories in luggage, as well as those worn by persons coming through ports of entry. No amount of inspection, however, can ensure detection of parts of a protected species in every case. See King, *supra* note 59, at 260-62 (discussing enforcement problems related to import-export).

64. See T. LUND, *supra* note 60, at 105 (further decimation of wildlife stopped by marketing bans and warden system).

65. See 1973 ESA Hearings, *supra* note 48, at 306 (statement of S.R. Seater, Dir. of Public Relations, Defenders of Wildlife) (destruction of natural habitat major reason for species' eradication).

but no less deleterious, effects on wildlife populations are far more difficult to control than hunting. "Habitat" means all of the natural factors and systems necessary to support a wildlife species, and the term includes all of the limitations on population expansion, such as amounts of food, water, and cover.<sup>66</sup> Space precludes cataloging all the ways that human alteration of habitat is detrimental to vulnerable species, but some prominent examples will illustrate the general problem.

Conversion of land from nonuse to use, or from one use to another, has been the factor most adverse to native wildlife. Turning the prairie into cropland spelled the inevitable demise of the great bison herds, whether or not the buffalo hunters plied their bloody trade. Clearing the forests irrevocably changed the population composition and distribution of native species, and the conversion of remaining forests to monocultures by "even-aged management," that is, replacement with trees all of the same age, continues the process.<sup>67</sup> Estuarine areas, marshes, and inshore wetlands provide prime habitats for many species.<sup>68</sup> As these areas disappear, their wildlife correspondingly diminishes.<sup>69</sup> The same is true of some seemingly compatible activities: changing the American West over to livestock grazing reduced the diversity and abundance of native species; not only has competition for scarce forage been heightened, but cattle and sheep overgrazing has reduced overall land productivity for all species.<sup>70</sup> Urbanization, industrialization, transportation systems, mineral extraction, and associated land uses all have taken their toll.

Related to land conversion as a cause of endangerment is water resources development, a focal point of recent legal controversy.<sup>71</sup> A great many species are dependent upon a free-flowing stream habitat, but such streams are disappearing under masses of dammed-up flatwater.<sup>72</sup> Flatwater also provides habitat, but for different species. The methods of operation for the vast systems of dams and diversions now in place also contribute to wildlife declines.<sup>73</sup>

66. See R. WHITTAKER, COMMUNITIES AND ECOSYSTEMS 16 (1970) (habitat is physical and chemical environment). "Critical habitat" is defined at 16 U.S.C. § 1532(5)(A) (Supp. IV 1980).

67. A. Starker Leopold explains that "[a]s even-aged planting progresses, the carrying capacity of the land for wildlife will decrease progressively. Species dependent upon mature forest inevitably will disappear; the process will produce the 'rare and endangered species' of tomorrow." Leopold, *Wildlife and Forest Practice*, in WILDLIFE AND AMERICA 108, 113 (H. Brokaw ed. 1978). Species such as the ivory-billed woodpecker that require mature vegetation tend to be the first affected by human forestry practices. Ripley & Lovejoy, *supra* note 50, at 368.

68. See generally Cairns, *The Modification of Inland Waters*, in WILDLIFE AND AMERICA 146, 156-57 (H. Brokaw ed. 1978) (wetlands are vital habitat for many species).

69. The draining of marshes has meant the disappearance of species dependent on the marsh ecology such as the endangered Florida Everglades kite.

70. See generally Wagner, *Livestock Grazing and the Livestock Industry*, in WILDLIFE AND AMERICA 121, 123 (H. Brokaw ed. 1978) (wild ungulates less adaptable than livestock to vegetation changes brought on by grazing).

71. See *TVA v. Hill*, 437 U.S. 153, 172-73 (1978) (Tellico Dam completion prevented because of loss of critical habitat of snail darter); *Pacific Legal Found. v. Andrus*, 657 F.2d 829, 831 (6th Cir. 1981) (construction of Columbia Dam halted because of endangerment to mussels); *Sierra Club v. Froehlike*, 534 F.2d 1289, 1305 (8th Cir. 1976) (refusal to enjoin Meramec Basin, Missouri, dams on ESA grounds); *Nebraska v. Rural Electrification Admin.* 12 Env't Rep. Cas. (BNA) 1156, 1181 (D. Neb. 1978) (guaranteed loan and permit for water power facility enjoined because of inadequate protection for whooping cranes).

72. See generally Cairns, *supra* note 68, at 151 (dams can substantially alter habitat).

73. See Bodi, *Protecting Columbia River Salmon Under the Endangered Species Act*, 10 ENVTL. L. 349, 349 (1980) (salmon have declined dramatically due to competition for water use from irrigation and hydroelectric power); Blumm & Johnson, *Promising a Process for Parity: The Pacific Northwest*

Habitat poisoning is another major cause of species mortality. The effects of DDT on wild bird populations are now generally conceded: its persistence and accumulation in the food chain results in reproductive failure, particularly in predatory or scavenger species such as peregrine falcons and Cooper's hawks.<sup>74</sup> The EPA has cancelled the registration of DDT and a few other persistent pesticides,<sup>75</sup> but considerable controversy surrounds many pesticides and herbicides still on the market.<sup>76</sup> The application of a poison meant to kill one species, usually an insect or a plant, often kills nontarget species as well.<sup>77</sup> In many areas poisoned baits intended for coyotes have been broadcast indiscriminately over the landscape with predictably indiscriminate results.<sup>78</sup> A larger problem is the toxic or harmful residues generated by industrial, agricultural, municipal, and commercial processes, which pervade many natural systems. Rivers become overloaded with organic and inorganic wastes that poison animals, deplete the water's oxygen, alter water temperature, and in other ways destroy habitat qualities.<sup>79</sup> Emissions of air pollutants from utility generating plants, falling as acid rain, kill the life in lakes hundreds of miles away.<sup>80</sup>

As the introductory quotation from Dr. Myers notes, the way people live is the ultimate cause of domestic species endangerment. Problems of human demographics and ecology are common to many areas of the world;<sup>81</sup> they are exacerbated in this country by the frenetic quest for "convenience"—which ordinarily is equivalent to "waste." The national reluctance to recycle materials because it is too "expensive" or "disruptive" leads naturally to increased exploitation of virgin resources, frequently in ecologically virgin areas.<sup>82</sup> The convenience of the personal automobile brought about the massive system of superhighways that bisect and reduce habitat all across the country.

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*Electric Power Planning and Conservation Act and Anadromous Fish Protection*, 11 ENVTL. L. 497, 502-03 (1981) (water managers focus on acceptability of power losses rather than benefit to wildlife).

74. See Risebrough, *Pesticides and Other Toxicants*, in WILDLIFE AND AMERICA 218, 229 (H. Brokaw ed. 1978) (DDE, a derivative of DDT, shown experimentally to produce shell thinning in several bird species); see also BUREAU OF LAND MANAGEMENT, U.S. DEP'T OF THE INTERIOR, TECHNICAL NOTE, HABITAT MANAGEMENT SERIES FOR ENDANGERED SPECIES, REPORT NO. 1, AMERICAN PEREGRINE FALCON AND ARCTIC PEREGRINE FALCON, 9.20-24 (Nov. 15, 1972) (filing code 6601) (DDE is most potent eggshell thinner); Snyder, *Can the Cooper's Hawk Survive?*, 145 NAT'L GEOGRAPHIC 432, 439-42 (1974) (DDT causes thin shells and also may disrupt reproductive behavior).

75. *Environmental Defense Fund, Inc. v. EPA*, 489 F.2d 1247, 1249 (D.C. Cir. 1973) (upholding EPA Administrator's action in cancelling almost all DDT registrations under Federal Insecticide, Fungicide, and Rodenticide Act).

76. See *Citizens Against Toxic Sprays, Inc. v. Bergland*, 428 F. Supp. 908, 913-18 (D. Or. 1977) (health problems, regulation, and litigation caused by phenoxy herbicides).

77. See *United States v. Corbin Farm Serv.*, 444 F. Supp. 510, 514 (E.D. Cal.) (registered pesticide applied to alfalfa field killed number of American widgeons, a protected migratory bird), *aff'd*, 578 F.2d 259 (9th Cir. 1978).

78. Cain, *supra* note 54, at 388 (unintended victims include badgers, foxes, golden eagles, bobcats, reptiles, and songbirds). In 1972 President Nixon issued an order barring the use of all poisons for predator control on public lands, except for emergency situations. Exec. Order No. 11,643, 37 Fed. Reg. 2875 (1972). In that same year the Administrator of EPA suspended and cancelled the registration of three chemical toxicants (strychnine, sodium fluoroacetate (1080), and sodium cyanide) used primarily in coyote control. The cancellation was upheld in *Wyoming v. Hathaway*, 525 F.2d 66, 73 (10th Cir. 1975), *cert. denied sub nom. Wyoming v. Kleppe*, 426 U.S. 906 (1976).

79. See Cairns, *supra* note 68, at 148-50 (heated waste water from electric power plants harms aquatic wildlife directly and indirectly).

80. See Risebrough, *supra* note 74, at 219-21 (acid rain falls on the entire Northeast).

81. See generally N. MYERS, *supra* note 30, at 8-9 (tropical developing countries also disrupt natural habitats).

82. See *id.* at 113-29 (detailing various encroachments being made on world's rain forests, and predicting dire consequences).

Technologies intended to reduce human labor or to save money too often have had unforeseen or unwanted adverse consequences. The expanding population requires food and building materials, a demand often translated into forest and farm monocultures that are all but sterile in terms of wildlife abundance and diversity.<sup>83</sup> Rural and suburban development, industrial plants, power complexes, and other artifacts of civilization all contribute to habitat shrinkage and disruption.<sup>84</sup> The replacement of traditional hook-and-line tuna fishing with enormous purse-seine nets has "incidentally" killed millions of dolphins and porpoises.<sup>85</sup> Off-road vehicles (ORV's) invade, disrupt, and destroy many areas of formerly tranquil habitat.<sup>86</sup> Clearcutting has far more severe effects on wildlife populations than less advanced methods of timber harvest.<sup>87</sup>

In the absence of self-regulation or self-restraint—both conspicuously lacking in the history of the United States—some form of "mutual coercion, mutually agreed upon"<sup>88</sup> is necessary to preserve a resource base for the prosperity of future generations. Hardin's classic phrase is, of course, merely a synonym for law. In recent years Congress has supplied some of the needed coercion in the form of rules for the conservation of America's natural and aesthetic resources.

#### B. FEDERAL LEGISLATION AFFECTING HABITAT

*If NEPA-caused delays continue, the wildlife manager will have two choices. He or she can comply with NEPA by holding ritualistic hearings, writing costly and unneeded impact statements, and collecting public input which contains little new information and does not contribute to the decision. . . . On the other hand, the manager can simply go out in the field and take action.*

Schectman, *The "Bambi Syndrome:" How NEPA's Public Participation in Wildlife Management is Hurting the Environment*, 8 ENVTL. L. 611, 636 (1978).

83. See Burger, *Agriculture and Wildlife*, in WILDLIFE AND AMERICA 89, 102 (H. Brokaw ed. 1978) (even the most adaptable wildlife species cannot survive in the unbroken landscapes of today's croplands).

84. See Stearns & Ross, *The Pressures of Urbanization and Technology*, in WILDLIFE AND AMERICA 199, 204-05 (H. Brokaw ed. 1978) (vast industrial parks and highways eliminate large areas of habitat).

85. See Committee for Humane Legislation v. Richardson, 540 F.2d 1141, 1143-44 (D.C. Cir. 1976) (purse-seine fishing causes substantial number of incidental deaths of porpoises). See generally Andersen, Anderson & Searles, *The Tuna-Porpoise Dilemma: Is Conflict Resolution Attainable?*, 18 NAT. RESOURCES J. 505, 506-07 (1978) (hundreds of thousands of porpoises killed yearly during 1960's and early 1970's); Nafziger & Armstrong, *The Porpoise-Tuna Controversy: Management of Marine Resources After Committee for Humane Legislation, Inc. v. Richardson*, 7 ENVTL. L. 223, 223 n.1 (1977) (estimated six million porpoises and tuna killed since 1959).

86. See generally D. SHERIDAN, OFF-ROAD VEHICLES ON THE PUBLIC LANDS 7 (1979) (ORV's have damaged every kind of ecosystem found in United States).

87. See Leopold, *supra* note 67, at 113 (selective logging of mature trees less harmful than clearcutting); cf. 44 Fed. Reg. 53,928, 53,990-91 (1979) (to be codified at 36 C.F.R. § 219) (clearcutting, with some limitations, permitted under National Forest System Rule).

88. Hardin, *supra* note 38, at 1247.

Statutes other than the Endangered Species Act of 1973 impose land use constraints that contribute to endangered species preservation.<sup>89</sup> State law has had important local protective consequences both directly and indirectly. It has been federal legislation, however, that has had a more general impact on wildlife populations.<sup>90</sup>

The better known federal laws are directed against environmental contaminants. Although the Clean Air Act,<sup>91</sup> the Clean Water Act,<sup>92</sup> the pesticide laws,<sup>93</sup> the Toxic Substances Control Act,<sup>94</sup> and the Safe Drinking Water Act<sup>95</sup> are aimed primarily at human benefit, the abatement of pollution also will be felt in the wild.<sup>96</sup> These laws have not yet brought about the reduced pollution levels they require, but without them the national nest could have been irretrievably fouled, with the loss of many species. Some pollution control programs already have been successful in increasing wildlife populations. Atlantic spawning fish, for example, are returning to Eastern seaboard streams from which they have been absent for decades, and some avian species are recovering from the brink of extinction because of new constraints on pesticide and herbicide use.

Public land laws forbidding or controlling human uses that harm wildlife on the third of the nation owned by the federal government also contribute to species preservation. Wilderness designation pursuant to the Wilderness Act of 1964<sup>97</sup> has exempted millions of acres from human development,<sup>98</sup> and the

89. Lawsuits aimed at protection of wildlife habitat seldom are grounded on just one statute. More often such controversies tend to be three- or four-sided with multiple—and sometimes conflicting—statutory authority at issue. *See Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156, 1181 (D. Neb. 1978) (power project challenged under National Environmental Policy Act of 1969 (NEPA), ESA, and Clean Water Act); *North Slope Borough v. Andrus*, 642 F.2d 589, 598, 607, 613 (D.C. Cir. 1980) (Alaskan offshore oil leases challenged under NEPA, ESA, and Outer Continental Shelf Lands Act).

90. Most federal programs, however, contemplate state cooperation and participation. *See Endangered Species Act of 1973*, 16 U.S.C. § 1535 (1976 & Supp. IV 1980) (mandating cooperation with states in carrying out program of Act); *Sikes Act*, 16 U.S.C. §§ 670g-670o (1976 & Supp. IV 1980) (Secretaries of Interior and Agriculture to cooperate with state agencies in developing conservation programs on public lands).

91. 42 U.S.C.A. §§ 7401-7642 (West 1981).

92. 33 U.S.C.A. §§ 1251-1376 (West 1981).

93. Federal Insecticide, Fungicide, and Rodenticide Act, as amended by the Federal Environmental Pesticide Control Act of 1972, 7 U.S.C. §§ 136-136y (1976 & Supp. IV 1980).

94. 15 U.S.C. §§ 2601-2629 (Supp. IV 1980).

95. 42 U.S.C. §§ 300-300j (1976 & Supp. IV 1980).

96. Congress clearly intended that environmental legislation benefit organisms other than humans. The Clean Water Act proclaims a national interim goal that, wherever attainable, water quality that provides for the "protection and propagation of fish, shellfish and wildlife . . . be achieved by July 1, 1983." 33 U.S.C. § 1251(a)(2) (1976). Under the provisions of the Federal Environmental Pesticide Control Act of 1972, a pesticide may not be registered unless it can be used without unreasonable adverse effects on the environment. 7 U.S.C. § 136a(c)(5) (Supp. IV 1980). Environment "includes water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist among these." *Id.* § 136(j) (1976). Similarly, the Toxic Substances Control Act, which regulates chemical substances and mixtures presenting an unreasonable risk of injury to health or the environment, defines environment as "water, air, and land and the interrelationship which exists among and between water, air, and land and all living things." 15 U.S.C. § 2602(5) (1976).

97. 16 U.S.C. §§ 1131-1136 (1976 & Supp. IV 1980).

98. Commercial enterprises, permanent and temporary roads, motor vehicles, motorized equipment, motor boats, other forms of mechanical transport, and landing of aircraft are prohibited in wilderness areas, subject to preexisting uses. 16 U.S.C. § 1133 (c), (d) (1976 & Supp. IV 1980). Mining and min-

designation process continues.<sup>99</sup> Laws establishing new national parks and wildlife refuges also preserve natural habitats.<sup>100</sup> The creation of refuges at both ends of the whooping crane's migration route and at stopover points in between has made possible the crane's comeback.<sup>101</sup> Other federal land management agencies have set aside wildlife sanctuaries within their lands. The Forest Service's California Condor Sanctuary<sup>102</sup> and the Bureau of Land Management's Snake River Birds of Prey Natural Area in Idaho<sup>103</sup> are prominent examples. Congress has extended the refuge concept to the adjacent seas: the Marine Sanctuaries Act<sup>104</sup> empowers the Secretary of Commerce to reserve

eral leasing are permitted subject to regulation for protection of the wilderness character of the land until January 1, 1984, when all minerals in wilderness areas will be withdrawn from all forms of appropriation, subject to existing rights. *Id.* § 1133(d)(3) (1976). Hunting and fishing are allowed, subject to state law. *Id.* § 1133(d)(8). See generally J. HENDEE, G. STANKEY & R. LUCAS, WILDERNESS MANAGEMENT (1978) (discussing legal, scientific, and social aspects of wilderness management).

99. The Wilderness Act requires studies of all roadless areas of 5,000 contiguous acres or more in the National Park System and National Wildlife Refuge System, 16 U.S.C. § 1132(c) (1976), and all "primitive" areas in the national forests. *Id.* § 1132(b). Congress later mandated similar studies for the public lands. Federal Land Policy and Management Act § 603, 43 U.S.C. § 1782 (1976). Under these procedures, the Secretaries of Agriculture and Interior make recommendations to the President, who in turn recommends to Congress areas suitable for inclusion in the National Wilderness Preservation System. 16 U.S.C. § 1132(b), (c) (1976); 43 U.S.C. § 1782 (1976). See McCloskey, *supra* note 38, at 301-02, 312 (discussing wilderness designation of Wilderness Act); Ray & Carver, *Section 603 of the Federal Land Policy and Management Act: An Analysis of the BLM's Wilderness Study Process*, 21 ARIZ. L. REV. 373, 373-94 (1979) (discussing Interior Secretary Andrus' implementation of § 603 of Federal Land Policy and Management Act (FLPMA)); Short, *Wilderness Policies and Mineral Potential on the Public Lands*, 26 ROCKY MTN. MIN. L. INST. 39, 40-41 (1980) (discussing wilderness management from viewpoint of energy and mineral developers). See generally J. HENDEE, G. STANKEY & R. LUCAS, *supra* note 98 (discussing wilderness study and management).

Areas under study also are protected to a limited extent. See *Parker v. United States*, 448 F.2d 793, 796-97 (10th Cir. 1971) (ordering Secretary to include study of area contiguous to designated wilderness in report to President, and enjoining timber cutting in area until President and Congress make determination), *cert. denied*, 405 U.S. 989 (1972); *California v. Bergland*, 483 F. Supp. 465, 499-500 (E.D. Cal. 1980) (enjoining development that would destroy wilderness character of area until suitable impact study completed). But see *Mountain States Legal Found. v. Andrus*, 499 F. Supp. 383, 394 (D. Wyo. 1980) (Secretaries of Agriculture and Interior may not refuse to consider oil and gas lease applications in wilderness study areas).

100. *E.g.*, Redwood National Park Act of 1968, 16 U.S.C. §§ 79a-79j (1976 & Supp. IV 1980). National Parks are governed by the preservation mandate of 16 U.S.C. § 1 (1976). The authority for National Wildlife Refuge Management is at 16 U.S.C. § 668dd (1976 & Supp. IV 1980).

101. See Gwynne, *Is Science Wildlife's Best Hope for the Future?*, 12 NAT'L WILDLIFE, April-May 1974, at 46 (refuges in Canada and Texas have helped increase whooping crane's numbers). General habitat maintenance, especially for endangered or threatened species, is now a high management priority for the National Wildlife Refuge System. New refuges have been established specifically for the Key deer in Florida, the Attwater prairie chicken in Texas, and the Columbia white-tail deer in Oregon—all endangered species. See Greenwalt, *The National Wildlife Refuge System*, in WILDLIFE AND AMERICA 399, 402-03 (H. Brokaw ed. 1978) (discussing the development of the National Wildlife Refuge System from 1961-1974). The individual refuge units are managed by the Fish and Wildlife Service according to the mandate that the Secretary not permit the use of any area for any purpose not compatible with the major purposes for which the areas are established. National Wildlife Refuge System Administration Act of 1966, 16 U.S.C. §§ 668dd-668ee (1976 & Supp. IV 1980). "Secondary" uses such as hunting, fishing, and recreation are permitted where they are compatible with the primary purpose for which a given refuge was established. *Id.* § 668dd(d)(1). See Coggins & Ward, *The Law of Wildlife Management on the Federal Public Lands*, 60 OR. L. REV. 59, 92-116 (1980) (discussing wildlife management in refuges and effect of ESA on FWS policies).

102. See Borland, *supra* note 49 (discussing sanctuary and other efforts to save endangered condor).

103. See Swanson, *Wildlife on the Public Lands*, in WILDLIFE AND AMERICA 428, 435 (H. Brokaw ed. 1978) (discussing Natural Area, species nesting there, and Bureau of Land Management (BLM) wildlife management measures).

104. 16 U.S.C. §§ 1431-1434 (1976 & Supp. IV 1980).

offshore areas for the benefit of the resident marine life.<sup>105</sup>

Another group of federal statutes has the effect of protecting species in trouble by directing federal land management agencies to take wildlife and habitat considerations into account in their resource decisionmaking. Foremost are the National Forest Management Act<sup>106</sup> and the Federal Land Policy and Management Act,<sup>107</sup> both passed in 1976. The Sikes Act<sup>108</sup> requires land managers to consult and cooperate with state agencies for habitat enhancement.<sup>109</sup> Water development projects are subject to the Fish and Wildlife Coordination Act (FWCA) of 1958,<sup>110</sup> which requires "equal consideration" of wildlife in project planning and submission of mitigation measures.<sup>111</sup> Other statutes, such as the Coastal Zone Management Act,<sup>112</sup> also demand more attention to habitat preservation.<sup>113</sup> In some cases Congress has directed that specific measures be taken to protect certain species. The Trinity Project Act,<sup>114</sup> for instance, requires maintenance of a minimum stream flow to accommodate anadromous fish needs.<sup>115</sup>

Other ad hoc federal statutes protect selected groups of wildlife species. All migratory birds are under the federal wing. The Migratory Bird Treaty Act of 1918 (MBTA)<sup>116</sup> authorizes a comprehensive, cooperative regulatory system intended to ensure that no eligible species becomes endangered or threatened. The Fish and Wildlife Service monitors bird species' populations and takes corrective action by setting seasons, limiting allowable take, and restricting hunting methods nationwide when declines occur.<sup>117</sup> The Marine Mammal Protection Act of 1972 (MMPA)<sup>118</sup> is similar in concept but more stringent in some respects. Unless affirmatively authorized by the Secretary of the Interior pursuant to strict statutory guidelines, the MMPA, with a few narrow exceptions, allows neither taking of nor commerce in marine mammals.<sup>119</sup> The

105. *Id.* § 1432(a) (1976). Section 1432(f) gives the Secretary the power to issue regulations controlling activities within sanctuaries.

106. 16 U.S.C. §§ 1600-1614 (1976 & Supp. IV 1980).

107. 43 U.S.C. §§ 1701-1789 (1976 & Supp. IV 1980).

108. 16 U.S.C. §§ 670g-670o (1976 & Supp. IV 1980).

109. *Id.* § 670g.

110. *Id.* §§ 661-667e (1976 & Supp. IV 1980).

111. *Id.* §§ 661, 662(a) (1976). *But see* Houck, *Judicial Review Under the Fish and Wildlife Coordination Act: A Plaintiff's Guide to Litigation*, 11 ENVTL. L. REP. (ENVTL. L. INST.) 50,043 (1981) (arguing that agencies have largely failed to implement FWCA); Parenteau, *Unfulfilled Mitigation Requirements of the Fish and Wildlife Coordination Act*, 42 TRANS. N. AM. WILDLIFE & NATURAL RESOURCES CONF. 179 (1977) (discussing "non-existent or feeble" mitigation efforts of most agencies); Veiluva, *The Fish and Wildlife Coordination Act in Environmental Litigation*, 9 ECOLOGY L.Q. 489, 503-04 (1981) (discussing agencies' and courts' tendency to ignore FWCA since passage of NEPA).

112. 16 U.S.C. §§ 1451-1464 (1976 & Supp. IV 1980).

113. *See id.* § 1452 (declaring national policy of considering ecological values in coastal zone management programs).

114. Act of Aug. 12, 1955, Pub. L. No. 84-386, 69 Stat. 719.

115. *Id.* § 2. In *County of Trinity v. Andrus*, 438 F. Supp. 1368 (E.D. Cal. 1977), the court found that the congressional mandate to "insure the preservation" of fish was qualified by the language, "appropriate measures." *Id.* at 1375. It held that "preservation" "merely requires that some fish life be maintained," rather than that fish populations be maintained at preproject levels. *Id.* at 1375.

116. 16 U.S.C. §§ 703-711 (1976 & Supp. IV 1980).

117. *Id.* §§ 703-704 (1976).

118. 16 U.S.C. §§ 1361-1407 (1976 & Supp. IV 1980). The legislation was the product of public outrage over whale endangerment, the slaughter of baby harp seals, crises in several marine mammal populations, and the inability of states to deal with wildlife problems of international scope. H.R. REP. NO. 707, 92d Cong., 2d Sess. 11-12, 16, *reprinted in* 1972 U.S. CODE CONG. & AD. NEWS, 4144, 4149.

119. 16 U.S.C. § 1361(a) (1976).



MMPA seeks to achieve and maintain "optimum sustainable populations";<sup>120</sup> species with populations below that ill-defined level or that have declined significantly are deemed "depleted"<sup>121</sup> and receive even more complete legal protection.<sup>122</sup> In 1976 the federal government instituted an overall management regime for marine fish within 200 miles of the shore under the Fishery Conservation and Management Act (FCMA).<sup>123</sup> The FCMA prohibition against "overfishing" and its efforts to maintain "optimum yield"<sup>124</sup> serve to prevent severe population declines of fish and other species dependent upon them.<sup>125</sup> Federal law also specifically protects wild horses and burros<sup>126</sup> and bald and golden eagles.<sup>127</sup>

The most important federal enactment for endangered species preservation, aside from the ESA, is the National Environmental Policy Act of 1969 (NEPA).<sup>128</sup> As interpreted by the Supreme Court, NEPA is merely a procedural mechanism for evaluation of environmental and other problems involved in "major federal actions."<sup>129</sup> That description does no justice to the practical effects of the Act, however, for NEPA has been the means by which the revolution in federal environmental law has been accomplished.<sup>130</sup> Compliance with the Act is now accepted as a normal part of necessary federal procedures, and it applies across the board. A federal agency must prepare an environmental impact statement whenever it proposes an action—whether a federal project or program or the licensing or financing of state or private initiatives—that will affect listed species.<sup>131</sup> In the course of such preparation, the agency must delineate the adverse effects of the action, analyze the possible alternative courses of action, invite public comment, initiate other agency reviews, and explain agency reasoning.<sup>132</sup>

120. *Id.* § 1361(6).

121. *Id.* § 1362(l).

122. *Id.* § 1371(a)(3)(B). See M. BEAN, *supra* note 44, at 342-46 (under MMPA "depleted" species receive protection more complete in some respects than endangered species receive under ESA); Gaines & Schmidt, *Wildlife Population Management under the Marine Mammal Protection Act of 1972*, 6 ENVTL. L. REP. (ENVTL. L. INST.) 50,096, 50,103 (1976) (same).

123. 16 U.S.C. §§ 1801-1882 (1976 & Supp. IV 1980).

124. *Id.* § 1851(a) (1976).

125. *Id.* § 1801(a) (1976 & Supp. IV 1980). See Schoenbaum & McDonald, *State Management of Marine Fisheries After the Fishery Conservation and Management Act of 1976 and Douglas v. Seacoast Products, Inc.*, 19 WM. & MARY L. REV. 17, 29-30 (1977) (determination of "optimal yield" under FCMA takes into account factors other than value of harvest, including recreation and present and future condition of habitat).

126. Wild and Free-Roaming Horses and Burros Act, 16 U.S.C. §§ 1331-1340 (1976 & Supp. IV 1980).

127. Bald Eagle Protection Act of 1940, 16 U.S.C. §§ 668-668d (1976 & Supp. IV 1980).

128. 42 U.S.C. §§ 4321-4347 (1976).

129. *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223, 227-28 (1980). "NEPA, while establishing 'significant substantive goals for the Nation,' imposes upon agencies duties that are 'essentially procedural' . . . [O]nce an agency has made a decision subject to NEPA's procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot 'interject itself within the area of discretion of the executive as to the choice of the action to be taken.'" *Id.* (quoting *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 558 (1978), and *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976)).

130. See generally F. ANDERSON, *NEPA IN THE COURTS: A LEGAL ANALYSIS OF THE NATIONAL ENVIRONMENTAL POLICY ACT (1973)* (analyzing NEPA procedures and their impact on federal actions).

131. 42 U.S.C. § 4332(2)(C) (1976); see *TVA v. Hill*, 437 U.S. 153, 188 (1978). "[T]he NEPA cases have generally required agencies to file environmental impact statements when the . . . governmental action would be environmentally 'significant.'" *Id.* at 188 n.34.

132. See McGarity, *Courts, the Agencies, and NEPA Threshold Issues*, 55 TEX. L. REV. 801, 804

In forcing federal agencies to take a hard look at the consequences of their decisions, NEPA triggers deeper consideration of environmental problems whenever the federal government is involved in land development.<sup>133</sup> The studies and evaluations commanded by the Act should identify wildlife problems.<sup>134</sup> Identification will in turn invoke the substantive provisions of other relevant statutes, particularly the Endangered Species Act.<sup>135</sup> The scope of NEPA and of the ESA is coextensive with the considerable reach of the federal government into areas of private endeavor.<sup>136</sup>

In sum, the problem of endangerment is basically a reflection of the ecological harm wrought by the scope and nature of human activity. Federal law apart from the Endangered Species Act has been moving in the direction of habitat protection by procedural and substantive means. The federal statutes listed above attack many of the causes of habitat destruction or poisoning, although their main aims are usually promotion of human health and safety. This web of legal protection is not seamless: some of those laws are more hortatory than mandatory. Although the federal environmental statutes of the 1970's eventually may transform the physical makeup of the country, they currently offer comparatively little assistance to wildlife species that have reached the danger point. That job is to be performed under the aegis of the Endangered Species Act of 1973.

## II. THE ENDANGERED SPECIES ACT OF 1973

*It may seem curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually completed dam for which Congress has expended more than \$100 million . . . . We conclude, however, that the explicit provisions of the Endangered Species Act require precisely that result.*

*TVA v. Hill*, 437 U.S. 153, 172-73 (1978).

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(1977) (NEPA requirements not merely procedural; underlying purpose to place environmental questions "before the ultimate decisionmaker—the public").

133. Cf. Rodgers, *A Hard Look at Vermont Yankee: Environmental Law Under Close Scrutiny*, 67 Geo. L.J. 669, 718, 724-25 (1979) (Environmental Impact Statement (EIS) must consider all reasonable alternatives, including "doing nothing," even if issues have not been raised by parties or public).

134. The studies that discovered the snail darter, for instance, were impelled by earlier NEPA litigation over the Tellico project. See *Environmental Defense Fund v. TVA*, 339 F. Supp. 806, 812 (E.D. Tenn. 1972) (continued construction of Tellico Dam enjoined pending filing of EIS), *aff'd*, 468 F.2d 1164 (6th Cir. 1972); *Environmental Defense Fund v. TVA*, 371 F. Supp. 1004 (E.D. Tenn. 1973) (dissolving injunction against proceeding with Tellico project because EIS adequate), *aff'd*, 492 F.2d 466 (6th Cir. 1974); see also *Foundation for N. American Wild Sheep v. United States*, 681 F.2d 1172 (9th Cir. 1982) (EIS required for reconstruction of road in wildlife habitat).

135. In *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156 (D. Neb. 1978), the Rural Electrification Administration (REA) had determined in the NEPA evaluation that the power project would have no detrimental effect on the endangered whooping crane, but the identification of the whooping crane issue in the impact statement invoked § 7 of the ESA, requiring the REA to consult with the Department of the Interior before taking action. 12 Env't Rep. Cas. (BNA) at 1170. Because the REA had not fully carried out this consultation and had not ensured that the whooping crane and its critical habitat would not be jeopardized, the court enjoined continued construction of the project. *Id.* at 1170-71, 1181. See *infra* notes 297-309 and accompanying text (discussing *Nebraska v. Rural Electrification Admin.*).

136. The Endangered Species Act actually has broader application than NEPA because the § 9 prohibition against taking applies to all persons, 16 U.S.C. § 1538 (1976 & Supp. IV 1980), and NEPA applies only to "major federal actions." 42 U.S.C. § 4332(2)(c) (1976).

Congress has seen protection of endangered species as a critical concern. Prompted by popular interest in species preservation, Congress has passed four acts in the past fifteen years to confront the problem of species endangerment. The first law was the Endangered Species Preservation Act of 1966 (ESPA);<sup>137</sup> its purpose was to establish and maintain a program of "protection, conservation, and propagation of selected species of native fish and wildlife that are endangered—that is, threatened with extinction."<sup>138</sup> No such program developed because the Act's preservation policy was applicable only "insofar as is practicable and consistent with the primary purposes" of federal agencies.<sup>139</sup> Otherwise, the 1966 Act was devoid of substantive provisions. The ESPA was a part of the legislation creating the National Wildlife Refuge System,<sup>140</sup> and it authorized the Secretary of the Interior to acquire lands for protection of endangered species.<sup>141</sup> Except for that authority, the 1966 version had little or no impact on land use.

The statutory evolution continued with passage of the Endangered Species Conservation Act of 1969 (ESCA).<sup>142</sup> It extended coverage from native species to endangered species worldwide, and it prohibited the importation of species or subspecies so listed.<sup>143</sup> But the ESCA did not strengthen the directive to federal agencies, prohibit "taking,"<sup>144</sup> or institute any new protective measures.<sup>145</sup> Although a few state statutes were more sweeping than the 1969 ESCA,<sup>146</sup> most state legislatures and game agencies were unable or unwilling to deal with the increasingly controversial problem.

The failure of federal and state agencies to take affirmative action in the face of impending ecological catastrophe helped inspire Congress in 1973 to pass the most far-reaching species preservation legislation ever enacted.<sup>147</sup> This sec-

137. Endangered Species Preservation Act of 1966, Pub. L. No. 89-669, 80 Stat. 926 (1966) (repealed 1973).

138. *Id.* § 1(c).

139. *Id.* § 1(b). See *TVA v. Hill*, 437 U.S. 153, 174-75 (1978) (1966 Act "not a sweeping prohibition on the taking of endangered species"); Palmer, *Endangered Species Protection: A History of Congressional Action*, 4 ENVTL. AFF. 255, 258-62 (1975) (1966 Act confined prohibitions to actions within National Wildlife Refuge System).

140. The National Wildlife Refuge Administration Act of 1966 survives. 16 U.S.C. § 668dd (1976 & Supp. IV 1980).

141. Endangered Species Act of 1966, Pub. L. No. 89-669, § 2(b), 80 Stat. 926, 927 (repealed 1973).

142. Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, 83 Stat. 275 (repealed 1973).

143. *Id.* §§ 2, 3(a).

144. "Taking" in wildlife law is a term of art meaning roughly "killing or capturing." The ESA broadened the definition considerably, 16 U.S.C. § 1532(19) (Supp. IV, 1980). See *infra* notes 324-86 and accompanying text (discussing implications of ESA "taking" definition).

145. See Coggins, *Conserving Wildlife Resources: An Overview of the Endangered Species Act of 1973*, 51 N.D. L. REV. 315, 317-18 (1975) (discussing limitations of 1969 Act); Palmer, *supra* note 139, at 268 (same); Rosenberg, *Federal Protection of Unique Environmental Interests: Endangered and Threatened Species*, 58 N.C. L. REV. 491, 502-03 (1980) (1969 Act had "minimal effect" on American endangered species because of inadequate restriction on destructive federal activities).

146. See Harris Law, ch. 1047, 1970 N.Y. LAWS § 11-0535 (McKinney 1981) (prohibiting possession or sale of any parts of federally listed endangered species); Mason Law, ch. 1048, 1970 N.Y. LAWS § 2758 (McKinney 1981) (prohibiting sale of any parts of certain species designated in law).

The New York Court of Appeals upheld the constitutionality of these laws in *A.E. Nettleton Co. v. Diamond*, 27 N.Y.2d 182, 264 N.E.2d 118 (1970) (federal law invites state participation and not preemptive; compliance with both laws possible), *appeal denied*, 401 U.S. 969 (1971). See also *Palladio, Inc. v. Diamond*, 321 F. Supp. 630, 635 (S.D.N.Y. 1970) (following *Nettleton*), *aff'd per curiam*, 440 F.2d 1319 (2d Cir. 1971), *cert denied*, 404 U.S. 983 (1971).

147. "As it was finally passed, the Endangered Species Act of 1973 represented the most comprehen-

tion discusses the purposes and scope of the Endangered Species Act of 1973 and outlines the major provisions that have a bearing on land use control.

#### A. OVERRIDING PURPOSES

*The purposes of the bill included the conservation of the species and of the ecosystems upon which they depend and every agency of government is committed to see that these purposes are carried out . . . . [T]he agencies of Government can no longer plead that they can do nothing about it. They can, and they must. The law is clear.*

119 CONG. REC. 42,913  
(1973) (remarks of Rep. Dingell).

The way in which agencies and courts will apply the Act to sensitive land use issues ultimately may depend on the decision-makers' perception of the fundamental congressional aims.<sup>148</sup> The debates in 1973 showed that Congress' goal was crystal clear, but the means were less well defined: for various reasons, Congress deemed extinction of any species intolerable<sup>149</sup> and directed federal agencies to use any and all means at their disposal to prevent it.<sup>150</sup> The senators and representatives who spoke in favor of the bill, and the votes were nearly unanimous,<sup>151</sup> paid relatively little attention to the practical problems of implementation. Congress apparently did not foresee the full scope of conflicts between endangered wildlife and other values. It did not debate precisely how the Act would affect wholly private land uses, although the Act's legislative history does contain several examples of federal land use practices that Congress meant the Act to alter or abolish.<sup>152</sup>

Congress specifically recognized that habitat was disappearing as a result of

sive legislation for the preservation of endangered species ever enacted by any nation." *TVA v. Hill*, 437 U.S. 153, 180 (1978).

148. That approach underlay the holding in *Hill*. Significantly, Congress in 1978 accepted the *Hill* interpretation, see *infra* note 395 and accompanying text, and the *Hill* opinion should continue to govern ESA interpretation.

149. See *Endangered Species: Hearings Before the Subcomm. on Fisheries and Wildlife Cons. and the Environment of the House Comm. on Merchant Marine and Fisheries*, 93d Cong., 1st Sess. 280 (1973) (statement of Rep. Roe) (very survival of mankind may depend on preservation of "delicate balance of nature"); *id.* at 281 (statement of Rep. Whitehurst) (although impact of loss of one species may not be readily discernable, each "occupies a niche and makes a contribution to the whole life"); H.R. REP. NO. 412, 93d Cong., 1st Sess. 5 (1973) (species are potential resources; "sheer self-interest impels us to be cautious"); S. REP. NO. 307, 93d Cong., 1st Sess. 2, *reprinted in* 1973 U.S. CODE CONG. & AD. NEWS 2989, 2990 (biological diversity needed for scientific purposes).

The classic exposition of reasons for saving species is Ehrendfeld, *The Conservation of Non-Resources*, 64 AM. SCI. 648 (1976) (natural diversity worth saving for "non-resource" reasons such as respect for life and "artistic" value of nature, as well as economic values such as possible future use, scientific research, and environmental monitoring).

150. 16 U.S.C. § 1531(5)(c) (1976). Congress ordered all federal agencies to seek to conserve endangered and threatened species. *Id.* The ESA defines "conservation" as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures [the Act provides] are no longer necessary." *Id.* § 1532(3) (Supp. IV 1980). See generally Coggins, *supra* note 145, at 324 (discussing broad definitions used in ESA).

151. The final roll call vote was 92-0 in the Senate, 355-4 in the House. 119 CONG. REC. 25,694, 42,915 (1973).

152. See H.R. REP. NO. 412, 93d Cong., 1st Sess. 14 (1973) (grizzly bears in Yellowstone Park should be protected by curtailment of clearcutting in National Forest areas surrounding park); 119 CONG. REC. 42,913 (1973) (remarks of Rep. Dingell) (Act would require change in practices of Air Force bombing range near whooping cranes' wintering grounds).

“economic growth and development untempered by adequate concern and conservation”<sup>153</sup> and cited habitat destruction as one of the two primary evils to be overcome.<sup>154</sup> Significantly, Congress dropped nearly all of the qualifying language in prior versions,<sup>155</sup> so that the main provisions of the resulting Act are phrased as mandatory and absolute.<sup>156</sup> A fair reading of the 1973 legislative history is that Congress intended “to devote whatever effort and resources were necessary to avoid further diminution of national and worldwide wildlife resources.”<sup>157</sup> The Act clearly reflects that intention, and most courts have used that goal as the lodestone of ESA interpretation.

#### B. SCOPE

*Ironically, the question of how many species actually exist on earth will probably never be resolved. The past 10 years have seen only another 100,000 species identified, bringing the total to 1.6 million. If an overall figure as low as 5 million is accepted, then another 3.4 million remain to be discovered—more than twice as many as have already been listed, and if the actual total is 10 million, then roughly five out of six species remain completely unknown to us. Even were the number of specialist scientists to be increased tenfold, it is doubtful if they could do more than take a solid poke at the problem before the end of the century. By that time, it is virtually certain that, unless there are massive changes in conservation attitudes and activities, a sizable proportion of all present species will have disappeared, forever.*

#### N. MYERS, THE SINKING ARK 18 (1979).

The second key consideration for assessing the Act's effect on land use is its scope: that is, the number, kind, and range of species that it protects. The Act's impact will be minimal if few domestic species are deemed endangered, but will expand in rough proportion to the length of the list of covered species. Unlike other federal wildlife statutes in which Congress designated the protected species,<sup>158</sup> the ESA contains a flexible administrative listing mechanism.<sup>159</sup> No species is entitled to the Act's protection until the Secretary of the Interior has added it to the official list.<sup>160</sup>

Although any species of wildlife in the world was theoretically eligible for

153. 16 U.S.C. § 1531(l) (1976).

154. S. REP. NO. 307, 93d Cong., 1st Sess. 2, reprinted in 1973 U.S. CODE CONG. & AD. NEWS 2989, 2990 (two major causes of extinction are hunting and destruction of natural habitat).

155. This aspect of the Act's evolution is reviewed in *TVA v. Hill*, 437 U.S. 153, 182-84, 185-86 n.31 (1978) (language from earlier versions such as “insofar as is practicable and consistent with primary purposes” dropped from Act as passed).

156. The only nonmandatory provision is section 4, which authorizes the listing of endangered or threatened species and the promulgation of regulations to protect those listed as threatened. 16 U.S.C. § 1533 (1976 & Supp. IV 1980). The Secretary's listing or delisting decisions are, however, subject to judicial review under ultra vires or abuse of discretion standards. *TVA v. Hill*, 437 U.S. 153, 172 (1978).

157. *TVA v. Hill*, 437 U.S. 153, 177 (1978) (quoting Coggins, *supra* note 145, at 321).

158. See *supra* notes 116-27 and accompanying text (discussing federal statutes that protect wildlife species).

159. 16 U.S.C. § 1533 (1976 & Supp. IV 1980).

160. *Id.* § 1533(c)(1) (Supp. IV 1980).

listing after 1969,<sup>161</sup> the 1973 Act expands practical coverage in several ways. The Act authorizes the listing of plants, as well as fish and animals.<sup>162</sup> To date the Secretary of the Interior has exercised the authority to list plants only sparingly,<sup>163</sup> but scientific assessments indicate that, among native plants alone, thousands meet the statutory criteria.<sup>164</sup> Further, the Act authorizes the listing of a species as endangered even if it is not in danger of extinction throughout all of its range, as long as it is in danger over a "significant portion" of its range.<sup>165</sup> Finally, to avoid the brinkmanship of acting only when the situation is acute, the Act authorizes the listing of a species as "threatened" whenever it is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."<sup>166</sup> The distinction between endangered and threatened species can be critical in many foreseeable land use conflicts because the protective measures accorded endangered species apply automatically and more or less absolutely,<sup>167</sup> while threatened species are protected through regulation only by whatever measures the Secretary<sup>168</sup> determines to be necessary.<sup>169</sup> One obvious consequence is that the Secretary holds vast potential power over land users through his discretion in listing species, defining critical habitats, and promulgating regulations.

The Act establishes procedures for adding species to the endangered or threatened species list after 1973: various forms of consultation "as appropriate" are mandated<sup>170</sup> and a notice-and-comment regulation format is required.<sup>171</sup> Any interested person can initiate the process.<sup>172</sup> Foreseeing that a species' status might become evident only when a development project further threatens it, Congress also authorized emergency listing procedures.<sup>173</sup>

The Secretary is to judge the status of a species on five substantive criteria:

1. the present or threatened destruction, modification, or curtailment of habitat or range;
2. "overutilization" for various purposes;

161. Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, § 3(a), 83 Stat. 275, 275 (1969) (repealed 1973).

162. 16 U.S.C. § 1532(16) (Supp. IV 1980).

163. Only sixty-one species of plants, representing twenty-five plant families, had been listed as endangered or threatened as of 1981. 50 C.F.R. § 17.12 (1981). Twenty-one of these species are members of the cactus family. *Id.* The FWS recently determined that a sixty-second plant, the orchid *Spiranthes parksii*, was an endangered species. 47 Fed. Reg. 19,539 (1982) (to be codified at 50 C.F.R. § 17.12).

164. A report by the Smithsonian Institution lists approximately 3,100 species of endangered or threatened plants. The report is reprinted in H.R. Doc. No. 51, 94th Cong., 1st Sess. (1975).

165. 16 U.S.C. § 1532(6) (Supp. IV 1980).

166. *Id.* § 1532(20).

167. See *infra* notes 324-37 and accompanying text (discussing taking of endangered species).

168. The ESA defines the term "Secretary" to mean, except as otherwise provided in the Act, "the Secretary of the Interior or the Secretary of Commerce as program responsibilities are vested pursuant to the provisions of Reorganization Plan Numbered 4 of 1970; except that with respect to the enforcement of the provisions of this chapter and the Convention which pertain to the importation or exportation of terrestrial plants, the term means the Secretary of Agriculture." 16 U.S.C. § 1532(15) (Supp. IV 1980).

169. 16 U.S.C. § 1533(d) (1976).

170. *Id.* § 1533(b)(1).

171. *Id.* § 1533(b)(1), (f) (1976 & Supp. IV 1980).

172. *Id.* § 1533(c)(2) (Supp. IV 1980).

173. *Id.* § 1533(f)(2)(C)(ii) (Supp. IV 1980); cf. National Wildlife Fed'n v. Coleman, 529 F.2d 359, 367 (5th Cir.), cert. denied, 429 U.S. 979 (1976) (emergency designation of Mississippi sandhill crane's critical habitat made on day before trial of action seeking to protect species by enjoining construction of highway).

3. disease or predation;
4. the inadequacy of existing regulatory mechanisms; and
5. other factors affecting the continued existence of a species.<sup>174</sup>

The Act does not indicate any priority or ranking, and not all the factors need be present to list or delist.<sup>175</sup> Congress neither limited the applicable criteria nor dictated any numerical population standards. Although the Secretary must rely on the best scientific and commercial data available,<sup>176</sup> the last two factors afford him great latitude in listing. The first criterion clearly requires the Secretary to assess the land use practices that might affect the survival of the species under consideration. If the listing goes unchallenged, it is unassailable in court later, when a conflict with a proposed land use occurs.<sup>177</sup>

Because the listing and delisting process is the touchstone of the Act's applicability, the relative dearth of litigation attacking agency decisions to list is surprising. No reported opinions concern delisting or the failure to list. Of the six known cases brought to challenge a listing decision, the Secretary's decision was upheld in three cases and invalidated in one. The other two cases are still pending.

The courts in two of the three decided cases upholding listing decisions did not deal directly with the listing criteria, but both indicated that considerable judicial deference is due secretarial discretion in the listing process. The first case, *Cayman Turtle Farm, Ltd. v. Andrus*,<sup>178</sup> arose because the Secretaries of the Interior and Commerce, in listing several species of sea turtles as either endangered or threatened, refused to create an exception for captive-raised turtles from the ban on importation of all turtle products.<sup>179</sup> The plaintiff, a commercial mariculture operator, sued to force an exemption for its products, alleging that the Secretaries' action was beyond their powers and was arbitrary or capricious.<sup>180</sup> The court delved deeply into the administrative record and concluded that the blanket ban on importation was lawful and reasonable.<sup>181</sup> Plaintiff's basic claim was that its business assisted the maintenance and enhancement of turtle populations in the wild by captive propagation and research.<sup>182</sup> The defendants reasoned that any trade in turtle products would have a deleterious impact on the wild populations because partial measures are too often and too easily circumvented.<sup>183</sup> The court deemed this basic conflict

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174. 16 U.S.C. § 1533(a)(1) (1976 & Supp. IV 1980).

175. *Id.*

176. *Id.* § 1533(b)(1). In addition, section 1533(b)(1) requires that the Secretary engage in appropriate consultation with affected states, interested persons and organizations, and other federal agencies.

*Id.*

177. In reference to the listing of the snail darter as an endangered species and the designation of its critical habitat by the Secretary, the Supreme Court in *Hill* stated: "[D]oubtless petitioner would prefer not to have these regulations on the books, but there is no suggestion that the Secretary exceeded his authority or abused his discretion in issuing the regulations. Indeed, no judicial review of the Secretary's determinations has ever been sought and hence the validity of his actions are not open to review in this Court." *TVA v. Hill*, 437 U.S. 153, 172 (1978). In the 1973 ESA Congress provided that any species listed as endangered pursuant to the Endangered Species Conservation Act of 1969 were automatically protected pending the republication of the lists to conform with the 1973 mandates and that republication did not require public hearings or comment. 16 U.S.C. § 1533(c)(3) (1976).

178. 478 F. Supp. 125 (D.D.C. 1979).

179. *Id.* at 128-29.

180. *Id.* at 127.

181. *Id.* at 135.

182. *Id.* at 132-33.

183. *Id.*

a "technical" or "scientific" question and accorded the Secretaries' decision a "strong presumption of validity."<sup>184</sup> A review of the evidence convinced the court that the administrative action had "an adequate factual and policy basis in the administrative record."<sup>185</sup>

The second case, *Pacific Legal Foundation v. Andrus*,<sup>186</sup> is in many respects a replay of the Snail Darter litigation. The TVA proposed and Congress authorized the construction of a dam;<sup>187</sup> conventional NEPA lawsuits against the dam eventually failed.<sup>188</sup> In the interim, however, the Secretary of the Interior listed as endangered six species of pearly mussels found in the river<sup>189</sup> and commenced a review of five species of snails that also resided there.<sup>190</sup> The Secretary had not completed the snail listings<sup>191</sup> or officially designated the critical habitat of the mussels.<sup>192</sup> Nonetheless, it seemed clear that construction of the dam could not go forward without violating the ESA.<sup>193</sup> At this point, various interests anxious for completion of the dam brought suit, claiming that the listing of the mussels and the proposed listing of the snails were invalid because the Fish and Wildlife Service had failed to prepare the environmental impact statement (EIS) required by NEPA.<sup>194</sup> Arguably misreading precedent,<sup>195</sup> the district court held that NEPA was inapplicable to the listing process,<sup>196</sup> even though the court thought the listing was a major federal action.<sup>197</sup>

184. *Id.* at 131. The court gave full deference to the Secretaries' finding that "the benefits of scientific research which would accrue from a mariculture exemption do not outweigh the risks to the survival of wild sea turtle populations." *Id.* at 132, 133. In addition, the court credited the Secretaries' finding that establishment of a mariculture exemption would be detrimental to the survival of wild sea turtle populations because a mariculture operation continually requires procurement of both wild eggs and breeding adults. *Id.* at 132 n.4. Plaintiff also claimed that the ESA "does not apply to captive-bred sea turtles which are hatched and raised in a controlled environment." *Id.* at 129. The court disagreed, pointing out that section 9(b) did not exempt from protection specimens that were "held in the course of a commercial activity." *Id.* at 129. The court therefore ruled that Cayman Turtle Farm could not qualify for the exemption because its turtles were held in the course of commercial activity. *Id.*

185. *Id.* at 134.

186. 9 ENVTL. L. REP. (ENVTL. L. INST.) 20,413 (M.D. Tenn. 1979), *aff'd*, 657 F.2d 829 (6th Cir. 1981).

187. 9 ENVTL. L. REP. (ENVTL. L. INST.) at 20,413.

188. *Id.* at 20,414.

189. *Id.*

190. *Id.*

191. *Id.*

192. *Id.*

193. "On February 16, 1977, the Director of the FWS issued a Biological Opinion concluding that completion of the Columbia Dam would jeopardize the continued existence of the six endangered mussels in violation of Section 7 of the Act." 9 ENVTL. L. REP. (ENVTL. L. INST.) at 20,414.

194. *Id.* at 20,413. Plaintiffs also alleged that the documents FWS relied upon in listing the mollusks as endangered and in proposing to list the snails were inadequate under NEPA. They sought an order invalidating the listing of the mollusks and directing that FWS promulgate regulations implementing NEPA in the listing process. *Id.*

195. Citing *Flint Ridge Dev. Co. v. Scenic Rivers Ass'n*, 426 U.S. 776 (1976), the court stated that "[w]here there is a conflict between a statutorily mandated purpose and the provisions of the NEPA, the statutory mandate takes preference." 9 ENVTL. L. REP. (ENVTL. L. INST.) at 20,415. The Supreme Court in *Flint Ridge* held NEPA inapplicable because the Secretary of Housing and Urban Development could not comply with statutory duties under the Interstate Land Sales Full Disclosure Act and at the same time prepare an environmental impact statement on proposed developments. 426 U.S. at 791. No such conflict exists, however, between the Endangered Species Act and NEPA. The ESA does prescribe procedural steps to implement its policies, but these are not necessarily irreconcilable with NEPA's command that "each agency of the Federal Government shall comply with the directives set out in [NEPA] unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance with one of the directives impossible." 115 CONG. REC. 39,703 (1969) (House conferees).

196. 9 ENVTL. L. REP. (ENVTL. L. INST.) at 20,415.



On appeal the Sixth Circuit used a somewhat different rationale to affirm.<sup>198</sup> The appellate court rejected the Government's arguments that compliance with NEPA was impossible because of time constraints and that the listing was the functional equivalent of an EIS.<sup>199</sup> Instead, the court held that the ESA conflicted with and thus superceded NEPA because the duty to list is mandatory, its exercise is governed by the five listing criteria, and listing comports with NEPA policies.<sup>200</sup> A thorough examination of the relevant legislative histories produced indicia of supporting congressional intent.<sup>201</sup>

In the third case upholding a listing decision, *Glover River Organization v. Department of Interior*,<sup>202</sup> plaintiff sought to stop the proposed listing of the leopard darter because the listing would have imperiled progress on the Lukfata Dam in Oklahoma.<sup>203</sup> The district court concluded that the Secretary of the Interior should have prepared an EIS prior to listing the leopard darter as a threatened species and designating its critical habitat,<sup>204</sup> a conclusion that cannot be reconciled with the decision in *Pacific Legal Foundation*. The Tenth Circuit reversed on the ground that Glover lacked standing.<sup>205</sup>

The one case invalidating a listing decision, *Colorado River Water Conservation District v. Andrus*,<sup>206</sup> was a travesty of a lawsuit. Water districts in Colorado brought an action ostensibly aimed at enforcing the ESA, but actually meant to emasculate its operation and to shift the blame for noncompliance to state governments and federal agencies.<sup>207</sup> The Colorado River squawfish, the humpback chub, and the totoaba are endangered species that inhabit the Colorado River.<sup>208</sup> The complaint filed by the water districts sought a wide range of remedies, including a declaration that the listing for each of the endangered species was invalid.<sup>209</sup> On cross motions for summary judgment, the Colorado federal district court held that the squawfish and chub had not been listed properly and thus were no longer officially endangered.<sup>210</sup>

The squawfish and the chub had been listed in 1967,<sup>211</sup> and federal defend-

197. *Id.* Plaintiffs contended that the listing of the species in this case was "major federal action significantly affecting the quality of the human environment" because the listings would delay or stop construction of the Columbia Dam. 9 ENVTL. L. REP. (ENVTL. L. INSTR.) at 20,413.

198. *Pacific Legal Found. v. Andrus*, 657 F.2d 829 (6th Cir. 1981).

199. *Id.* at 834-35.

200. *Id.* at 835-37. Application of NEPA to the listing process would complicate and delay an already intricate exercise, but likely would have little long-term detrimental effect. More significant is the court's holding that listing is mandatory when the ESA criteria are satisfied. *Id.* at 835.

201. 657 F.2d at 838-40.

202. 675 F.2d 251 (10th Cir. 1982).

203. *Id.*

204. *Id.* at 253.

205. *Id.* at 255-56. The court reasoned that even if the preparation of an EIS led to removal of the leopard darter from the threatened species list, this would not ensure the funding or construction of future flood control projects on the Little River system, which was the result sought by Glover. *Id.* Glover therefore failed to establish the causation and redressability requisite for standing. *Id.*

206. Civ. No. 78-A-1191 (D. Colo. Aug. 3, 1981) (granting summary judgment) (copy on file at *Georgetown Law Journal*).

207. It was uncontroverted that plaintiffs were more interested in invalidating the listing of the piscine species than in protecting their aquatic habitat. *Colorado River Dist.*, slip op. at 1-2.

208. 32 Fed. Reg. 4,001 (1967).

209. *Colorado River Dist.*, slip op. at 1.

210. *Id.* at 9. While the totoaba listing was held deficient in failing to designate critical habitat, *id.* at 11, the proper remedy was designation, not invalidation.

211. 32 Fed. Reg. 4,001 (1967).

ants conceded that Administrative Procedure Act<sup>212</sup> (APA) rulemaking procedures had not been followed in the listing process.<sup>213</sup> Apparently plaintiffs did not argue that either species was substantively unqualified under former or present listing criteria. The court deemed the question purely one of legal interpretation: did the APA apply to species designation under the 1966 ESA?<sup>214</sup> Holding that the answer was affirmative, the court rejected the government's technical and statutory defenses and found the listing invalid.<sup>215</sup> The federal defendants argued that plaintiffs failed to exhaust the administrative remedy of petitioning for a change in the species' status,<sup>216</sup> that the APA was inapplicable because the listing concerned public property,<sup>217</sup> and that subsequent enactments showed that Congress in 1966 did not intend to impose formal rulemaking requirements.<sup>218</sup> The court rejoined that no exhaustion is required if the question is purely legal,<sup>219</sup> that wild animals are the property of no one, including the federal government,<sup>220</sup> and that there was no applicable APA exemption.<sup>221</sup> Each of those rulings is questionable. The arguments that either were not made or were not addressed, however, are more fundamental.

The court threw out an administrative decision made fourteen years earlier. No objection had been made to listing in 1967, and no proceeding had been commenced in the eight years after 1973 for reconsideration.<sup>222</sup> In 1973 Con-

212. 5 U.S.C. § 551 (1976).

213. *Colorado River Dist.*, slip op. at 8-9. The listing had been repeated, with APA compliance, in 1970. The fact initially was ignored by both parties, but it was the basis for a subsequent motion to reconsider by federal defendants, which is pending. Letter from attorney for plaintiffs to author (Oct. 12, 1981) (copy on file at *Georgetown Law Journal*).

214. *Colorado River Dist.*, slip op. at 7.

215. *Id.* at 8-9.

216. *Id.* at 7. The "delisting" procedure is authorized by the ESA, and may be initiated by petition of anyone. 16 U.S.C. § 1533(c)(2) (Supp. IV 1980).

217. *Colorado River Dist.*, slip op. at 8 (noting defendant's contention that, because § 553 of Act inapplicable to public property, fish should be excluded).

218. *Id.* The 1966 version of the ESA required only "consultation," while the 1973 Act explicitly mandates APA notice-and-comment procedures. 16 U.S.C. § 1533(f)(1) (1976).

219. *Colorado River Dist.*, slip op. at 7. Government emphasis on plaintiffs' failure to use the later statutory remedy disguised the more serious problems of finality and laches. *See infra* notes 222-30 (discussing laches and finality issues).

220. *Colorado River Dist.*, slip op. at 8. The public property exemption never has had wide application, and the court's rejection of it likely is correct. But the question is more interesting and difficult than the court's offhand treatment would make it appear. Although dicta going back to *Missouri v. Holland*, 252 U.S. 416, 434 (1920), have proclaimed that *state* ownership is a conceptual "slender reed," and although that ownership theory was interred in *Hughes v. Oklahoma*, 441 U.S. 332, 335-36 (1979), the question of *federal* "ownership" has never received a conclusive answer. The piecemeal, preliminary judicial thinking indicates that federal ownership of federally protected species is not wholly specious. Refusing to decide the question in *Kleppe v. New Mexico*, 426 U.S. 529, 537 (1976), Justice Marshall nevertheless commented that "it is far from clear . . . that Congress cannot assert a property interest in the regulated horses and burros superior to that of the state." *Id.* The district court in the *Palila* case went a little further in dictum: "But where endangered species are concerned, national interests come into play . . . [so that] the importance of preserving such a national resource may be of such magnitude as to rise to the level of a federal property interest." *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985, 995 n.40 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

221. *Colorado River Dist.*, slip op. at 9. The court did not discuss whether the less demanding requirements of the 1966 Act superceded the equivalent APA requirements.

222. The list has been republished dozens of times. There was no allegation that plaintiffs were unaware of the listing at any time, even if such ignorance is a defense to laches. The failure to make a seasonable challenge to the original listing should be fatal. *See Fund for Animals v. Frizzell*, 530 F.2d 982, 987 (D.C. Cir. 1975) (upholding regulations challenged on ground that comment period too short because plaintiffs' delay in bringing action inexcusable).

gress had affirmed the validity of the preexisting list,<sup>223</sup> and various interests had relied on it in one way or another over time. The plaintiff districts certainly were aware of the listing for many years. The effect of the court's decision conceivably could be the extinction of two wildlife species, precisely the result Congress took such pains to avoid.<sup>224</sup> Further, the decision places all pre-1973 designations and the species protected by them in jeopardy. Looked at in this light, it is evident that the court's simplistic rationale should not stand.

Accepted canons of administrative law also dictate reversal of the district court decision. Procedural defects render an administrative decision voidable, not void. Remand to the agency for reconsideration might have been proper had the water districts timely challenged the "rule,"<sup>225</sup> but such defects are subsumed into the finality of the rule and are not subject to later collateral attack. As the Supreme Court in *TVA v. Hill* stated, "[T]here is no suggestion that the Secretary exceeded his authority . . . in issuing the regulations [that listed the species and designated critical habitat for it]. Indeed, no judicial review of the Secretary's determinations has ever been sought and hence the validity of his actions [is] not open to review in this Court."<sup>226</sup> The Sixth Circuit in *Pacific Legal Foundation* agreed: "Such [listing] may be reviewed to determine if it was arbitrary and capricious. See 5 U.S.C. § 706. No review of rulemaking was requested by appellants. They cannot now collaterally attack the rulemaking as unsupported by substantial evidence."<sup>227</sup> Further, none of the four cases<sup>228</sup> cited by the court for its dispositive conclusion that "[r]ules promulgated in violation of [APA] § 553 are invalid"<sup>229</sup> is on or anywhere near the point: all four cases were reasonably direct and contemporaneous attacks on the challenged regulation.<sup>230</sup> The *Colorado River District* decision is wrong on the law as well as shortsighted on the policy aspects of the controversy.

The two pending cases involving challenges to listing decisions are *DeKalb County Commissioners v. Andrus*<sup>231</sup> and *Edwards Underground Water District v. Andrus*.<sup>232</sup> In *DeKalb* the Alabama Power Company and others are opposing the listing of the green pitcher plant.<sup>233</sup> In *Edwards*, the plaintiff district seeks invalidation of four species listings for failure to assess economic impacts; it fears that the designations may reduce the amount of water available

223. 16 U.S.C. § 1533(c)(3) (1976).

224. See *TVA v. Hill*, 437 U.S. 153, 173-47 (1978) ("Congress intended endangered species to be afforded the highest of priorities").

225. Whether the listing qualified as a "rule" was open to question, at least before Congress decided to treat it as such, because it is more in the nature of a finding of fact than a generally applicable standard for behavior or decision.

226. 437 U.S. at 172.

227. *Pacific Legal Found. v. Andrus*, 657 F.2d 829, 833 (6th Cir. 1981).

228. The court cited *NLRB v. Wyman-Gordon Co.*, 394 U.S. 759 (1969); *Joseph v. Civil Serv. Comm'n*, 554 F.2d 1140 (D.C. Cir. 1977); *United States v. Daniels*, 418 F. Supp. 1074 (D.S.D. 1976); and *City of New York v. Diamond*, 379 F. Supp. 503 (S.D.N.Y. 1974).

229. *Colorado River Dist.*, slip. op. at 9.

230. Only in *City of New York v. Diamond* was there any gap between the publication of the regulation and the challenge to it, and defendants failed to assert a laches defense. *City of New York v. Diamond*, 379 F. Supp. 503, 518 (S.D.N.Y. 1974).

231. No. 80-C-1242 (N.D. Ala.), digested in WILDLIFE NEWSLETTER, May-June 1981, at A-1 (published by Wildlife Section, Land and Natural Resources Div., U.S. Dep't of Justice).

232. Civ. No. 80 Ca 410 (W.D. Tex.), digested in WILDLIFE NEWSLETTER, May-June 1981, at A-1.

233. WILDLIFE NEWSLETTER, May-June 1981, at A-1.

for general use in San Antonio and neighboring cities.<sup>234</sup>

At present the reach of the Act is limited to fewer than 200 species native to this country.<sup>235</sup> The listing process was slow getting underway,<sup>236</sup> it has been periodically retarded by political considerations<sup>237</sup> and jurisdictional squabbles,<sup>238</sup> and it came to a crashing halt to adjust to the 1978 Amendments,<sup>239</sup> which require critical habitat designation to accompany listing.<sup>240</sup> Although the present Administration appears more inclined to delete species from the list than to add them to it, there is reason to believe that the list will expand in coming years. A big backlog of candidate species, plant and animal, already exists. State agencies are identifying local species that eventually should qualify for federal listing. The listing process can be initiated by anyone and is subject to judicial review;<sup>241</sup> if the statutory criteria are satisfied, listing becomes a mandatory duty.<sup>242</sup> More aggressive action by conservation organizations to take advantage of these procedures may be anticipated.

Finally, the surface of biological ignorance has barely been scratched: estimates of the number of species in the world vary by millions; the number of subspecies and distinct populations defies counting; the crisis of extinction rates becomes daily better known;<sup>243</sup> and zoological experts are discovering precarious species at an accelerating pace.<sup>244</sup> The flexibility in the listing process contemplates some margin for error, and the Act as a whole dictates that species in peril receive every benefit of the doubt. Expansion of the list of endangered and threatened species will increase the potential for conflicts between wildlife and land development.

### C. PROTECTION OF LISTED SPECIES

*This shift in property rights from the private individual to the public community . . . establishes endangered species as common resource property much as we have come to treat our architectural heritage and historical monuments. Essentially the approach says that no one has the*

234. *Id.*

235. 50 C.F.R. §§ 17.11, .12 (1981).

236. Coggins, *supra* note 45, at 804.

237. "There was, however, some indication that the Fish and Wildlife Service deliberately had failed to list two species of insects living in the vicinity of the ongoing New Melones Dam project in California for fear of provoking an adverse congressional reaction." Rosenberg, *supra* note 145, at 538 n.225 (citations omitted).

238. The jurisdictional problem was created by the 1973 Act. See Coggins, *supra* note 145, at 329-30 (Secretaries of Interior and Commerce jointly responsible for listing endangered and threatened species). Sea turtle listings, for instance, were held up for years while the Interior Department argued with the Department of Commerce over who had jurisdiction. The procedural history of sea turtle listing is recounted in Cayman Turtle Farm, Ltd. v. Andrus, 478 F. Supp. 125, 127-28 (D.D.C. 1979).

239. One hundred eleven animals and 1,867 plants had been proposed for listing prior to the Amendments, H.R. REP. NO. 1026, 95th Cong., 2d Sess. 2-3 (1978); nearly all of these proposals were abandoned thereafter.

240. 16 U.S.C. § 1533(a)(1) (Supp. IV 1980). See *infra* notes 396-413 and accompanying text (discussing critical habitat designation under 1978 amendment).

241. 16 U.S.C. § 1533(c)(2), (f)(1) (1976 & Supp. IV 1980). Over a hundred species have been listed at the behest of private petitioners. See 41 Fed. Reg. 24,062 (1976) (codified at 50 C.F.R. § 17.11 (1981)) (159 species listed as endangered on petition of Fund for Animals, Inc.). The decision not to list is reviewable.

242. Pacific Legal Found. v. Andrus, 657 F.2d 829, 841 (6th Cir. 1981).

243. Ramsay, *supra* note 31, at 598.

244. N. MYERS, *supra* note 30, at 17-19.

*right to obliterate a species any more than anyone has the right to build highrise apartments on the site of Independence Hall, the Alamo, or the Statue of Liberty and that this should hold whether the land be held privately or publicly.*

Ripley & Lovejoy, *Threatened and Endangered Species*, in WILDLIFE AND AMERICA 365, 377 (H. Brokaw ed. 1978).

Once a species is listed as endangered, the Act surrounds it with a cocoon of legal protection. The Act removes markets: no one may import, export, sell, transport, barter, or possess a listed animal or products made from it.<sup>245</sup> The Act "freezes" articles made from endangered species before they were listed: no one may buy or sell them even if they were acquired lawfully.<sup>246</sup> The Act forbids all killing, harm, and harassment of an endangered species,<sup>247</sup> with only a few well-circumscribed exceptions.<sup>248</sup> The Fish and Wildlife Service (FWS) forms a "recovery team" for each listed species. Teams are composed of biological specialists who study the species and recommend measures for its preservation and further propagation.<sup>249</sup> If the Secretary has classified the species only as threatened, he may impose those same measures, and others discussed below, by regulation.<sup>250</sup>

The restrictions on hunting and commerce are standard means of wildlife

245. 16 U.S.C. § 1538(a) (1976 & Supp. IV 1980). See M. BEAN, *supra* note 44, at chs. 5 & 12 (discussing prohibition and regulation of trade involving endangered and threatened species); Coggins, *supra* note 45, at 804-05 (same); King, *supra* note 59, at 254 (same).

246. In *Delbay Pharmaceuticals, Inc. v. Department of Commerce*, 409 F. Supp. 637 (D.D.C. 1976), the court held that spermaceti derived from the endangered sperm whale and imported pursuant to a valid economic hardship exemption permit under the 1969 ESCA was subject to all provisions of the 1973 ESA. *Id.* at 643. The court further held that such permits for importation did not give the right to sell or transport the substance in interstate commerce. *Id.*; see also *United States v. Richards*, 583 F.2d 491, 496 (10th Cir. 1978) (permit authorizing possession of birds protected by 16 U.S.C. § 703 (1976) does not give full property rights or allow sale); cf. *United States v. Fuld Store Co.*, 262 F. 836, 836 (D. Mont. 1920) (1918 Migratory Bird Act prohibiting sale of parts of protected bird does not apply to sale of plumage lawfully acquired prior to Act). The Supreme Court affirmed the constitutionality of a prohibition on the sale of lawfully acquired property in *Andrus v. Allard*, 44 U.S. 51, 64-68 (1979) (rejecting challenges based on fifth amendment taking clause to regulations forbidding sale of legally acquired wildlife artifacts). See Coggins, *supra* note 44, at 335-43 (discussing problem of illegal sale of artifact legally acquired).

247. 16 U.S.C. § 1538(a) (1976). See *infra* notes 324-86 and accompanying text (discussing ESA's "taking" provision).

248. 16 U.S.C. § 1539 (1976). Exemptions are available in the discretion of the Secretary for persons who have entered into contracts involving an endangered species prior to notice in the Federal Register that the species is under consideration for listing if application of the Act's prohibitions will cause that person to suffer an undue economic hardship. *Id.* § 1539(b). Alaska natives are not subject to prohibitions of the Act if protected species are taken primarily for subsistence purposes. *Id.* § 1539(f).

249. Congress did not specifically include statutory authority for designation of a recovery team in the 1973 ESA, but the broad definition of "conservation" in section 1532(2) ("all methods and procedures" necessary to bring endangered and threatened species to a point where protective measures are no longer necessary) is adequate general authority. Such teams were common before the 1978 amendments to the ESA gave them statutory recognition. See *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985, 988 & n.4 (D. Hawaii 1979) (FWS recovery team accumulated data used by FWS in determining ESA violation), *aff'd*, 639 F.2d 495 (9th Cir. 1981); *Fund for Animals v. Andrus*, 11 Env't Rep. Cas. (BNA) 2189, 2190-91 (D. Minn. 1978) (recovery team composed of Park Service, Forest Service, and state officials had authority to develop plan for recovery of endangered timber wolf).

250. 16 U.S.C. § 1533(d) (1976). Such regulations are binding on the agency. *Fund for Animals v. Andrus*, 11 Env't Rep. Cas. (BNA) 2189, 2192-93 (D. Minn. 1978).

protection derived from many predecessor state and federal statutes.<sup>251</sup> But they do not directly confront the overriding problem of habitat destruction and alteration, and Congress was not satisfied with halfway measures. Some provisions of the 1973 Act are clearly directed at habitat preservation, and other sections are capable of being interpreted to serve that end.

### 1. Land Acquisition

The 1973 ESA increased the authorization of funds for the purchase of endangered species habitat.<sup>252</sup> Actual appropriations and spending have not met original expectations, and the immediate purchasing prospects are dim.<sup>253</sup> The Secretary's land acquisition powers, however, plus his rulemaking authority under other statutes such as the Migratory Bird Treaty Act,<sup>254</sup> provide several indirect means of controlling private land use.<sup>255</sup> For instance, courts have upheld orders forbidding hunting on private lands adjacent to refuges to protect the birds using them.<sup>256</sup>

### 2. Federal Agency Actions: The Duties Created by Section 7

Section 7 of the Act as passed in 1973 is obviously directed at habitat protection:

The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this chapter. All other Federal departments and agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 1533 of this title and by taking such action necessary to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered species and threatened species or result in the destruction or modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical.<sup>257</sup>

The quoted provision is now only one subsection of section 7, but it remains

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251. See generally M. BEAN, *supra* note 44, at ch. 4; T. LUND, *supra* note 60, at 105-07; J. TREFETHEN, *supra* note 56, at pt. IV; Palmer, *supra* note 139 (discussing provisions of Lacey Act, Endangered Species Conservation Act of 1969, and Endangered Species Act of 1973).

252. 16 U.S.C. § 1534 (1976 & Supp. IV 1980).

253. The Reagan Administration has slashed Fiscal Years' 1982-85 funding for the Interior Department, and Secretary Watt has announced a policy against land acquisition for parks.

254. 16 U.S.C. § 704 (1976).

255. See Coggins & Patti, *Resurrection and Expansion of the Migratory Bird Treaty Act*, 50 U. COLO. L. REV. 165, 182 nn.138-39 (1979) (discussing criminal liability and prosecution under Migratory Bird Treaty Act).

256. See *Bailey v. Holland*, 126 F.2d 317, 322 (4th Cir. 1942) (government power to prohibit hunting migratory water fowl not confined to land to which it holds title; prohibition on adjacent land valid as necessary to fulfill statutory goals). See generally *Sickman v. United States*, 184 F.2d 616, 619 (7th Cir. 1950), *cert. denied*, 341 U.S. 939 (1951) (Secretary of Interior's discretionary prohibition of hunting protected birds on adjacent lands does not render United States liable for crop damage caused by those birds); M. BEAN, *supra* note 44, at 76-85.

257. 16 U.S.C. § 1536 (1976) (current version at 16 U.S.C. § 1536 (Supp. IV 1980)).

substantially intact.<sup>258</sup> It also remains the key to land use control over any project or activity with a substantial connection to federal powers or largesse. Read literally, it creates four distinct duties binding on every federal agency. The procedural duty, which was substantially expanded in 1978,<sup>259</sup> requires consultation whenever an action may affect protected species; it triggers the process leading to land use control but provides no substantive guidance. The negative injunctions forbid jeopardizing a listed species or destroying its "critical habitat." The affirmative command requires the agency to conserve endangered and threatened species.

*The Duty to Insure Against Jeopardization.* In some reported cases, courts have tended to lump together the prohibitions against critical habitat modification and species jeopardization without differentiating between them.<sup>260</sup> Although closely related, they are nevertheless analytically distinct, and the distinction can have practical importance.

In *TVA v. Hill* the Supreme Court settled any doubts concerning whether the dual prohibition should be read literally and strictly. An earlier Eighth Circuit decision had treated section 7 as merely requiring a NEPA-like consultation process by the agency with the Secretary of the Interior, imposing few, if any, actual limitations on the content of the agency decision.<sup>261</sup> The *Hill* Court emphasized that the duties to insure against modification of habitat and species jeopardization are distinct, absolute, and judicially enforceable.<sup>262</sup>

The Fifth Circuit in an earlier case had opined that the Act did not give the Department of Interior's Fish and Wildlife Service a veto power over the action agency (and then entered an order that effectively gave the FWS such a veto).<sup>263</sup> The Supreme Court did not directly discuss the issue of veto power, but it squarely held that if the project would result in species jeopardization, it could not go forward.<sup>264</sup> The FWS thus has an initial de facto veto over land

258. The 1978 Amendments added procedural refinements and an exemption procedure but did not change the operative wording quoted. See *infra* notes 387-548 and accompanying text (discussing 1978 Amendments to ESA). In 1979, "do not jeopardize" was changed to "is not likely to jeopardize." Act of Dec. 28, 1976, Pub. L. No. 96-159, § 4(l), 93 Stat. 1225, 1226.

259. See *infra* notes 420-71 and accompanying text (discussing consultation process).

260. *Sierra Club v. Froehlke*, 534 F.2d 1289, 1303-04 (8th Cir. 1976).

261. *Id.* at 1303-04 & n.39. The *Froehlke* court relied on *National Wildlife Fed'n v. Coleman*, 529 F.2d 359 (5th Cir.), *cert. denied*, 419 U.S. 979 (1976), in holding that the concerned agency and not the Secretary of the Interior had the ultimate decision making power on a federal project. The *Froehlke* court, however, ignored the *Coleman* court's deferral to the Secretary of the Interior's determination on ultimate agency decision. 529 F.2d at 375; see *infra* note 263 (discussing *Coleman*).

262. The words of section 7 "affirmatively command all federal agencies 'to insure that actions authorized, funded or carried out by them do not jeopardize the continued existence' of an endangered species or result in the destruction or modification of habitat of such species . . . This language admits of no exception." *TVA v. Hill*, 437 U.S. 153, 173 (1978) (emphasis in original).

263. *National Wildlife Fed'n v. Coleman*, 529 F.2d 359 (5th Cir.), *cert. denied*, 419 U.S. 979 (1976). The court stated that "once an agency has had meaningful consultation with the Secretary of Interior concerning actions which may affect an endangered species the final decision of whether or not to proceed with the action lies with the agency itself. Section 7 does not give the Department of Interior a veto over the actions of other federal agencies." *Id.* at 371. But in shaping relief, the court accorded Interior the key role: "Because the Department of Interior has primary jurisdiction for administering the Endangered Species Act, and the subject matter of this lawsuit is within the specialized field of the Department we defer to its determination of what modifications are necessary to bring the highway project into compliance with § 7." *Id.* at 375.

264. *TVA v. Hill*, 437 U.S. 153, 186-87 (1978).

uses that require federal participation or permission because the FWS makes the biological forecast in the consultation process.

The key terms in section 7 are "insure," "action," and "jeopardize the continued existence." The *Hill* Court gave expansive readings to the first two, but had no need to construe the third phrase because the parties conceded the likelihood of extinction.<sup>265</sup> The Court decided that "actions authorized, funded, or carried out" means literally every decision that federal agencies make.<sup>266</sup> In contrast to NEPA, there are no qualifying words such as "major" or "significantly affecting,"<sup>267</sup> and the scope of section 7 is limited only by the requirement of a nexus to federal agencies. That limitation is less significant than it may appear, for the federal government is in one way or another intimately associated with many types of large-scale private activity.<sup>268</sup> Similarly, "insure" was assumed by the *Hill* majority to carry its ordinary connotation.<sup>269</sup>

The central problem of interpretation is whether "jeopardize the continued existence" means "result in extinction," or "contribute somehow to the process that ultimately may lead to extinction," or something in between. Must the action adversely affect the entire species, or will the likelihood of harm to one or more species' members suffice to invoke section 7 protection? Population compositions of species range from single local populations that are vulnerable to one sizable development (such as the snail darter) to solitary, widespread, and wide-ranging species (such as bald eagles) whose total population would not be much affected by any single human project. If "jeopardization" is interpreted to require a drastic effect on the entire population, the reach of section 7 will be narrowly circumscribed for the latter varieties.

No judicial opinion preceding the 1978 Amendments adequately defined "jeopardization."<sup>270</sup> In *Sierra Club v. Froehlke*<sup>271</sup> plaintiff sued to enjoin construction by the Army Corps of Engineers of the Meramec Dam in Missouri, alleging that it would both violate section 7 and "take" the endangered Indiana bat.<sup>272</sup> The evidence indicated that the project would cause flooding in

265. *Id.* at 171-72.

266. *Id.* at 172-74. Justice Powell in dissent argued that the phrase "actions authorized, funded, or carried out" was ambiguous and should apply only to prospective actions in which an agency still has reasonable decision making alternatives available, not to all actions that an agency can ever take. *Id.* at 205 (Powell, J., dissenting). In the majority opinion, Chief Justice Burger stated that "[o]ne would be hard pressed to find a statutory provision whose terms were any plainer than those in § 7 of the Endangered Species Act," *id.* at 173, and held that Justice Powell's interpretation would make the words "or carry out" in section 7 superfluous; if Congress had meant to limit the Act to require agency compliance with section 7 only at the planning stage, it would have used appropriate language, such as that in the National Environmental Policy Act, 42 U.S.C. § 4332(2)(A), (C) (1976). *Id.* at 173 n.18.

267. The requirements of NEPA do not become applicable until it is determined that the activity in question is "major federal action significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C) (1976); see *Kleppe v. Sierra Club*, 427 U.S. 390, 403-06 (1976) (EIS only required when major federal involvement). In contrast, the section 7 mandate in the ESA is directed to all actions of federal agencies. 16 U.S.C. § 1536 (1976 & Supp. IV 1980).

268. See *infra* notes 685-95 and accompanying text (discussing extensive reach of federal regulatory power over private projects).

269. 437 U.S. at 173-74, 182-84.

270. One of the best analyses of legislative intent is in Note, *Obligations of Federal Agencies Under Section 7 of the Endangered Species Act of 1973*, 28 STAN. L. REV. 1247 (1976).

271. 534 F.2d 1289 (8th Cir. 1976).

272. *Id.* at 1301-02.



several caves containing bats.<sup>273</sup> One cave that had been proposed for critical habitat designation contained a "large number" of bats.<sup>274</sup> Flooding would occur only if the reservoir reached flood pool level, a level that would be reached, statistically, once in a period exceeding 10,000 years.<sup>275</sup> Even assuming the worst consequences, it was evident that Meramec by itself would not cause the extinction of the species because only a few thousand bats out of an estimated population of 700,000 would be affected. Without much illuminating discussion, the Eighth Circuit affirmed the trial court's conclusion that the dam would cause neither jeopardization nor a taking.<sup>276</sup>

The situation of the Mississippi sandhill crane in *National Wildlife Federation v. Coleman*<sup>277</sup> differed dramatically. Road building agencies proposed to construct an interstate highway through or adjacent to the only habitat for the remaining 40-odd cranes.<sup>278</sup> The highway itself would not have extirpated the species, but the commercial development in its wake, combined with other factors that had contributed to its endangered status, conceivably could have eliminated the species over the years.<sup>279</sup> Without defining the degree of harm requisite to jeopardization, the court enjoined the project for failure to insure that no jeopardy would occur.<sup>280</sup> *TVA v. Hill*,<sup>281</sup> the Snail Darter case, posed an even starker situation: unless transplantation was successful,<sup>282</sup> closing the

273. *Id.* at 1303.

274. *Id.*

275. *Id.* at 1302 n.37, 1303. The court thought it significant that although the Secretary of the Interior has the power to designate critical habitat immediately, he chose not to do so in this instance. *Id.* at 1302 n.37. The evidence showed that 10 to 15 thousand Indiana bats would be affected by the waters of the reservoir, that the normal pool level of the reservoir would flood several caves, and that recreation in the area would be detrimental to the remaining habitat. *Id.* at 1303.

276. The court found no clear error in the district court's determination that the defendants had violated neither section 7 nor section 9 of the ESA and that plaintiffs had failed to show that the Meramec Dam activities were adversely affecting Indiana bats. *Id.* at 1305. The court stated that "in reviewing us its merits the substantive agency decision before us our review is narrow and limited in scope." *Id.* at 1304.

277. 529 F.2d 359 (5th Cir.), *cert. denied*, 429 U.S. 979 (1976).

278. *Id.* at 362.

279. *Id.* at 365. The sandhill crane population had been "declining 'chiefly because of reduction of suitable habitat which is semi-open and wet savannah by changing land use including drainage, planting of trees, suburban development, and highway building.'" *Id.* (quoting the Final Environmental Impact Statement Interstate Route No. 10, Jackson County, Mississippi, at 23-24 (1975), quoting FISH AND WILDLIFE SERVICE, U.S. DEP'T OF THE INTERIOR, THE THREATENED WILDLIFE OF THE UNITED STATES (1973)). "[I]t is questionable whether the crane can survive the additional loss of habitat caused by the indirect effects of the highway . . ." 529 F.2d at 373.

280. "[Section] 7 imposes on all federal agencies the mandatory obligation to insure [nonjeopardization] . . . . Although . . . the appellees have recognized and considered the danger the highway poses to the crane, they have failed to take the necessary steps 'to insure' that the highway will not jeopardize the crane or modify its habitat." 529 F.2d at 373. The "injunction is to remain in force until the Secretary of the Department of Interior determines that the necessary modifications are made in the highway project to insure that it will no longer jeopardize the continued existence of the Mississippi Sandhill Crane or destroy or modify critical habitat of the Mississippi Sandhill Crane." *Id.* at 375 (footnote omitted).

281. 437 U.S. 153 (1978).

282. To facilitate completion of the Tellico Dam without destroying the snail darter, Congress appropriated specially two million dollars to finance relocation of the snail darter and other endangered species which threatened to stop or delay TVA projects. *TVA v. Hill*, 437 U.S. 153, 170-71 (1978) (citing H.R. REP. NO. 379, 95th Cong., 1st Sess. 11 (1977); S. REP. NO. 301, 95th Cong., 1st Sess. 99 (1977)); Public Works for Water and Power Development and Energy Research Appropriation Act of 1978, Pub. L. No. 95-96, 11 Stat. 797 (1977). The Secretary of the Interior had found that experimental transplantation into the nearby Hiwassee River did not prove that the snail darter could survive in that

Tellico Dam gates would cause the extinction of the little fish.<sup>283</sup>

A reasonable definition of "jeopardize" is any substantial harm to any population segment of any listed species. That a species is listed as endangered itself indicates that any adverse effect could contribute to its extinction. The use of "jeopardize" in the statute instead of "result in extinction" suggests that Congress contemplated a less demanding standard. The administrative interpretation, which is entitled to some deference,<sup>284</sup> takes a middle-of-the-road approach: an agency action does not "comply if it might be expected to result in a reduction in the number or distribution of that species of sufficient magnitude to place the species in jeopardy, or restrict the potential and reasonable expansion or recovery of that species . . ." <sup>285</sup> Since an endangered species is already in jeopardy and a threatened species is close to it, only a de minimus impact on the species should be tolerable in applying section 7.<sup>286</sup>

In sum, the duty to insure against jeopardization, although subject to some dispute over the magnitude of the effect of the action on a listed species, is nevertheless a considerable barrier to land development. Virtually any federal participation in the decision will trigger the application of section 7, and any federal action, no matter how far along the project may be, qualifies. No agency may construct, license, finance, authorize, act on, or assist in a project unless it first has consulted with the FWS and received official assurances that the action will not harm listed species. The agency must be able to *insure* that such damage will not occur; neither biological uncertainty nor future intentions to mitigate harm should serve to circumvent the statutory requirement.

*The Duty to Insure Against Critical Habitat Destruction.* Closely related to jeopardization, and perhaps more to the point for land use purposes, is the requirement that the federal agency insure against destruction or modification of critical habitat. In the 1973 Act, section 7 contained only the reference to "habitat . . . determined by the Secretary . . . to be critical."<sup>287</sup> Congress failed to specify any criteria, definitions, or procedures for that determination.

Given the unlimited number of ways in which human activities have adversely affected animal habitats, and the congressional recognition that habitat loss is the primary cause of endangerment,<sup>288</sup> protection of critical habitat will

habitat and did not negate evidence that biological and other factors in the Hiwassee would preclude successful transplantation of the snail darter. *TVA v. Hill*, 437 U.S. 153, 162-63, 163 n.13 (1978) (citing Fed. Reg. 47,506 (1975)). The evidence on transplants is not all in yet, and later reports claim that snail darter populations have been discovered in other locations.

283. "[I]t is clear that TVA's proposed operation of the dam will have precisely the . . . effect . . . [of] eradication of an endangered species." *Hill*, 437 U.S. at 174. *But cf. supra* note 282 (possibility of species survival even with dam).

284. *Cf. Train v. Natural Resources Defense Council*, 421 U.S. 60, 75 (1975) (reviewing court will not overturn EPA construction of Clean Air Act if sufficiently reasonable); *Udall v. Tallman*, 380 U.S. 1, 18 (1965) (courts will defer to Interior Department construction of Executive Order if reasonable even though alternative constructions possible).

285. 40 Fed. Reg. 17,764 (1975).

286. This would partially reconcile the Indiana Bat, Mississippi Sandhill Crane, and Snail Darter cases discussed *supra* in notes 270-83 and accompanying text. Although any harm to the crane population of approximately 40 would be a violation, some negative effects on a few of the estimated 700,000 bats would be tolerable in the absence of cumulative detriments.

287. 16 U.S.C. § 1536 (1976) (current version at 16 U.S.C. § 1536(a)(2) (Supp. IV 1980)).

288. *See supra* note 48 (discussing habitat destruction as cause of extinction).

be a sweeping restriction on land use if administratively implemented. Section 7 forbids adverse modification as well as destruction of habitat. It only applies, however, to federal actions and to areas that have been officially designated. The second of these is the more important limitation because the critical habitat designation process has been slow, tentative, and incomplete.<sup>289</sup> Fearing political reaction and unsure of its powers and duties in this area,<sup>290</sup> the FWS to date has made designations for only a fraction of the listed species—and then frequently with reluctance.<sup>291</sup>

Even so, such designations have been significant in the reported litigation. The Supreme Court in *Hill* noted that the snail darter's official critical habitat would necessarily be disrupted by the closing of the dam gates.<sup>292</sup> The Eighth Circuit in *Sierra Club v. Froehlke*<sup>293</sup> cited the failure to complete the habitat designation process for the Indiana bat as a reason for finding no violation.<sup>294</sup> In the Mississippi Sandhill Crane litigation,<sup>295</sup> the FWS, on the eve of trial, issued an emergency habitat determination to which the Fifth Circuit gave full credence.<sup>296</sup> And in *Nebraska v. Rural Electrification Administration*,<sup>297</sup> the Nebraska District Court was willing to protect a designated habitat many miles downstream from the project at issue.<sup>298</sup>

The latter decision was handed down after *Hill* but before enactment of the 1978 Amendments. The whooping crane, perhaps the best known endangered species, used a stretch of the Platte River in Nebraska as stopover habitat in its annual migration.<sup>299</sup> The proposed Grayrocks Dam and Reservoir in Wyoming on a Platte tributary could have reduced flow in the Platte River, adversely altering the crane habitat.<sup>300</sup> The defendant federal agency concluded that there would be no negative impact on the whooping cranes.<sup>301</sup> The FWS demanded consultation, however, and concluded that there was a possibility of adverse consequences, although further studies would be necessary to determine the effects more precisely.<sup>302</sup> With matters in that posture, the court enjoined further construction, holding the loan guarantees given by Rural

289. Only 29 critical habitats had been designated prior to the 1978 Amendments. COUNCIL ON ENVIRONMENTAL QUALITY, 1978 ANNUAL REPORT 334 (tables 7-8) (1979). See generally Rosenberg, *supra* note 145, at 533-39.

290. See Schreiner, *Critical Habitat: What It Is—and Is Not*, 1 ENDANGERED SPECIES TECH. BULL., No. 2, at 1 (1976).

291. See 50 C.F.R. §§ 17.11, .50 (1981) (listing endangered species and designated habitats); see also *supra* notes 289-90 (discussing critical habitat designation).

292. "The proposed impoundment of water behind the proposed Tellico Dam would result in total destruction of the snail darter's habitat." *TVA v. Hill*, 437 U.S. 153, 162 (1978) (quoting 40 Fed. Reg. 47,505 (1976)) (emphasis in original).

293. 534 F.2d 1289, 1301-02 n.37 (8th Cir. 1976).

294. *Id.* at 1301-02 n.37.

295. *National Wildlife Fed'n v. Coleman*, 529 F.2d 359, 367-68 (5th Cir.), cert. denied, 429 U.S. 979 (1976).

296. *Id.* at 367-68.

297. 12 Env't Rep. Cas. (BNA) 1156 (D. Neb. 1978).

298. *Id.* at 1175-76.

299. *Id.* at 1162.

300. *Id.* at 1161. It was difficult to assess the impact that the dam construction could have on the downstream habitat of the whooping crane since little was known about the crane's exact habitat preferences and stopover locations. *Id.* at 1162.

301. *Id.* at 1162.

302. *Id.* at 1170-71.

Electrification Administrations (REA) to the private project sponsors illegal on ESA grounds, among others, and overturning a Corps of Engineers permit for the project.<sup>303</sup>

The court acknowledged that REA may have been justified in concluding that “no adverse impact on the habitat had been demonstrated at the time REA decided to proceed with its commitments to the Sponsors.”<sup>304</sup> It held, however, that this answer does not meet REA’s burden under the ESA:

[T]he difficulty is that the Endangered Species Act places the burden upon the agencies who are authorizing, funding, or carrying out programs to insure that those programs do not jeopardize endangered species or the habitat of the species. The burden is not upon someone else to demonstrate that there will be an adverse impact. It may well be true that REA was justified in concluding that no adverse impact had been demonstrated, but the question is whether it has met its burden of *insuring* that there will be no jeopardy. Unless REA has done that, it has not complied with the Act. That is true, even though the whooping crane issue was first raised well after many of the plans had been made and a great deal of money already spent.<sup>305</sup>

The court attributed the same broad duty to the Corps of Engineers.<sup>306</sup> The Corps had issued a permit for construction with a list of safeguards attached as a “Special Note” to the permit, the gist of which was that the Corps could require modification of reservoir operations upon completion of the FWS’s study of the habitat requirements for the continued existence of the whooping crane and other migratory waterfowl “if such is deemed to be in the best public interest.”<sup>307</sup> The court found that this arrangement fell short of the insurance against habitat modification required by section 7:

The Corps’ duty is much broader than that. If it has insufficient information to “insure” that the Project will not endanger a critical habitat, it must get that information. Requiring the permittee to use certain restrictions regarding withdrawing water from the Grayrocks Reservoir, without having information which satisfies the Corps of what is needed to protect the critical habitat downstream, does not amount to an insurance.<sup>308</sup>

The district court also rejected the Corps’ arrogation to itself of policy decisionmaking, stating that “it is not up to the Corps to decide whether saving a critical habitat is ‘in the public interest.’ Congress has already decided that it is.”<sup>309</sup>

In *Hill* there was no dispute over the biological effect of the federal action, but such clarity is a rare phenomenon. The *Nebraska v. Rural Electrification Administration* court was confronted with the more common problem of bio-

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303. *Id.* at 1180-81.

304. *Id.* at 1171.

305. *Id.* (emphasis in original).

306. *Id.* at 1172.

307. *Id.* at 1172-73.

308. *Id.* at 1173.

309. *Id.*; accord *Roosevelt Campobello Internat’l Park Comm’n v. EPA*, 684 F.2d 1041, 1055, 1057 (1st Cir. 1982).

logical uncertainty. Its solution was to force the proponents of the possibly destructive federal action to carry the burden of showing that the possible destruction would not occur. This comports with the requirement that the action agency "insure" that no consequential harm will ensue. If the court's burden of persuasion holding is followed, the party so burdened in future land use disputes of this nature will lose unless it can overcome the uncertainty.<sup>310</sup> Equally significant is the court's rejection of good intentions as a substitute for present insurance. It is very tempting for an agency to say that "we will take adequate measures later" and let the commitment of resources create a project momentum far more difficult to halt at that later time.

The definition of habitat makes the agencies' duty to insure against critical habitat destruction very broad. Habitat is the sum of the factors supporting the life of the species,<sup>311</sup> so any action that intrudes on any attribute of a species' existence could be a modification if not a destruction of habitat. Thus one can argue that federal actions violate the ESA if they result in poisoning of the environment, or excessive, disruptive noise levels, or diminution of prey or other food sources, or general urbanization, or any other activity adversely affecting—directly or indirectly—the amenities required for an endangered species to survive.

*The Duty to Conserve.* Judicial and administrative attention has been focused on the foregoing "thou shalt nots" of section 7, but another of its commands may turn out to be as important. Section 7 directs all federal agencies to "utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of" listed species.<sup>312</sup> The wording is mandatory, but the direction is unclear. Although section 7 clearly obligates each federal agency to do more than refrain from harming listed species, the Act nowhere spells out the nature and extent of that duty.

The starting point of the inquiry into the duty to conserve is the definition of conservation: it means "the use of all methods and procedures which are necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management . . ." <sup>313</sup> This definition obviously does not limit the scope of the administrative duty. Congress apparently has directed each agency to do whatever is in its power to improve the status of a listed species. That Congress did not intend to confine conservation to traditional wildlife management techniques is shown, not only by the "not limited to" language, but also by the "purposes" of the Act, which include providing "a means whereby the ecosystems upon which endangered species and

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310. In ordinary judicial review of an agency action, the challenger bears a heavy burden of demonstrating that the action is arbitrary or capricious, and the court will affirm if any reasonable ground supports the agency determination. The ESA as interpreted by the *Grayrocks* court stands the presumption of regularity and reasonableness on its head: the agency has the burden of demonstrating that its action will not have the undesirable consequences; if the evidence is inconclusive, the agency has failed to carry its burden and must lose.

311. See R. WHITTAKER, *supra* note 66, at 77.

312. 16 U.S.C. § 1536(a)(1) (Supp. IV 1980).

313. *Id.* § 1532(3).

threatened species depend may be conserved."<sup>314</sup> This language, of course, refers to habitat and thus indirectly to land use control.

Existing precedent on the question of whether this command of section 7 creates an independent, affirmative duty to conserve is sketchy and mixed. In *Defenders of Wildlife v. Andrus*<sup>315</sup> the FWS had issued regulations permitting game shooting of certain migratory birds from one half hour before sunrise until sunset, to provide hunters more shooting time.<sup>316</sup> Plaintiffs sought to overturn the regulations on the ground that the decreased visibility before dawn and near sunset increased the possibilities that hunters, mistaking an endangered species for a shootable variety, would kill or wound a listed species.<sup>317</sup> This, they claimed, violated section 7.<sup>318</sup> The federal district court, in a brief opinion, agreed. First, because the agency adduced no adequate information on the likely effect of hunting in the disputed periods, the court held that the failure of FWS to study and evaluate the problem was itself a violation of the Act.<sup>319</sup> Beyond that, the court held that the ESA created an affirmative duty to conserve that would be violated if misidentification possibilities were in fact increased by the administrative decision.<sup>320</sup>

In a later and somewhat similar case that went the other way,<sup>321</sup> the court also conceded that an affirmative conservation duty was created by the Act.<sup>322</sup> In each case the conservation claim was that unintentional taking of endangered species should be avoided to the maximum extent possible, even at the expense of a considerable recreational interest. No other opinions on the nature and scope of this affirmative duty have been located. Thus, although courts recognize its existence, the conservation duty is largely an unknown, the boundaries of which await further litigation for definition.<sup>323</sup>

### 3. Taking Endangered and Threatened Species

The Act's "taking" provisions create potential threats to many other inter-

314. *Id.* § 1531(b).

315. 428 F. Supp. 167 (D.D.C. 1977).

316. *Id.* at 168-69. The regulations were promulgated pursuant to the Migratory Bird Treaty Act, 16 U.S.C. § 704 (1976). *Id.* at 168.

317. *Id.* at 168-69.

318. *Id.* at 168. Plaintiff also alleged that the Secretary had violated his own Migratory Bird Treaty Act (MBTA) regulations stating that hunting regulations should "limit the taking of protected species where there is a reasonable possibility of hunter identification error between game and protected species." *Id.* (quoting 41 Fed. Reg. 9177 (1973)).

319. *Id.* at 169.

320. *Id.* at 170. The court stated:

It is clear from the face of the statute that the Fish and Wildlife Service . . . must do far more than merely avoid the elimination of protected species. It must bring these species back from the brink so that they may be removed from the protected class, and it must use all methods necessary to do so. The Service cannot limit its focus to what it considers the most important management tool available to it, i.e., habitat control, to accomplish this end.

*Id.*

321. *Connor v. Andrus*, 453 F. Supp. 1037 (W.D. Tex. 1978).

322. *Id.* at 1041. The *Connor* court invalidated a regulation that protected the then-endangered Mexican duck by prohibiting hunting in several areas. The legal bases on which the court rested were questionable. See *Coggins & Patti*, *supra* note 255, at 20,204; *Rosenberg*, *supra* note 145, at 511-12 & n.91.

323. See *infra* notes 676-84 and accompanying text (discussing federal agencies' duty to conserve).

ests. Section 9 of the ESA prohibits, without exception or qualification, the taking of endangered wildlife species by any person subject to the jurisdiction of the United States.<sup>324</sup> Civil and criminal penalties of up to twenty thousand dollars per violation may be assessed.<sup>325</sup> "Person," under section 9, means all officers and instrumentalities of federal, state, and foreign governments, as well as private individuals and entities.<sup>326</sup> "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."<sup>327</sup> Although this prohibition might appear to be simply a hunting law forbidding the intentional killing of a listed species, such a narrow interpretation is unwarranted. Section 9 is an important land use control.

The fundamental issue is whether habitat modification that indirectly kills endangered species is a "taking" within the meaning of the Act. An answer depends on three critical questions: whether the section requires intent to harm or to violate the Act as an element of the offense; whether negligent conduct or indirectly caused harm are violations; and whether future foreseeable takings may be enjoined. Persuasive evidence in the statute and its legislative history, administrative interpretations, several judicial decisions, and analogous, parallel precedent support the startling conclusions that any conduct that will foreseeably harm a species directly or indirectly by adversely affecting its habitat is a violation and that such conduct can be enjoined.

Section 9 is not qualified with language requiring scienter, either intentional, willful, malicious, knowing, or otherwise,<sup>328</sup> and it is directed at actions of less than lethal design: "harm" and "harass" cover far more conduct than "hunt" or "kill."<sup>329</sup> Significantly, Congress intended to define "take" in the broadest possible manner to include every conceivable way in which a person can "take" or attempt to "take" any fish or wildlife.<sup>330</sup> Because Congress in 1973 meant to use all means and methods necessary to reverse the decline of species,<sup>331</sup> it is reasonable to conclude that the legislature meant to outlaw "takings" in any form, direct or indirect, intentional or unintentional.<sup>332</sup> Courts have adopted that interpretation in cases arising under the Migratory Bird Treaty Act, imposing criminal liability when maintenance of a nuisance,<sup>333</sup>

324. 16 U.S.C. § 1538 (1976 & Supp. IV 1980).

325. *Id.* § 1540 (1976 & Supp. IV 1980).

326. *Id.* § 1532(13) (Supp. IV 1980).

327. *Id.* § 1532(14).

328. *Id.* § 1538 (1976 & Supp. IV 1980). Scienter is an element of the criminal offense under the Wild Free-Roaming Horses and Burrows Act, 16 U.S.C. § 1338(a)(3) (1976), and under the Bald Eagle Protection Act, 16 U.S.C. § 668(a) (1976). It is not specified in the ESA, in the Marine Mammal Protection Act of 1972, 16 U.S.C. § 1375(b) (1976), or in the Migratory Bird Treaty Act, 16 U.S.C. § 707 (1976). See Margolin, *Liability Under the Migratory Bird Treaty Act*, 7 *ECOLOGY L.Q.* 989, 994-1001 (1979) (courts have not required intent for violation of Migratory Bird Treaty Act); cf. Note, *The Courts Take Flight: Scienter and the Migratory Bird Treaty Act*, 36 *WASH. & LEE L. REV.* 241, 246-57 (1979) (analysis of congressional intent and court decisions indicates scienter requirement).

329. 50 C.F.R. § 17.3 (1981).

330. S. REP. NO. 307, 93d Cong., 1st Sess. 2295 (1973).

331. See *supra* note 150 (discussing broad scope of 1973 ESA).

332. Coggins & Patti, *supra* note 255, at 193-96.

333. See *United States v. Equity Corp.*, No. 75-51 (D. Utah Dec. 8, 1975) (applying MBTA to bird deaths resulting from open oil sump pits), discussed in *United States v. Corbin Farm Serv.*, 444 F. Supp. 510, 527 n.7 (E.D. Cal.), *aff'd*, 578 F.2d 259 (9th Cir. 1978); *United States v. Stuarco Oil Co.*, No. 73-127 (D. Colo. July 11, 1973) (applying MBTA to bird deaths resulting from open oil sludge pits),

negligent conduct,<sup>334</sup> and accidents in the course of a hazardous activity<sup>335</sup> resulted in unintentional bird mortality.<sup>336</sup> The Migratory Bird Treaty Act construction easily could be transferred to ESA cases as the similarities between the two statutes are much more numerous and striking than their differences.<sup>337</sup>

The contemporaneous FWS interpretation of section 9 also supports the conclusion that habitat degradation is a prohibited taking. The agency by regulation defines "harm," one form of taking, to include

an act or omission which actually injures or kills wildlife, including acts which annoy it to such an extent as to significantly disrupt essential behavioral patterns, which include . . . breeding, feeding, or sheltering; *significant environmental modification or degradation which has such effects is included within the meaning of "harm."*<sup>338</sup>

The interpretive regulation is presumptively valid. In addition to specific rule-making authority,<sup>339</sup> the Secretary has power to promulgate such regulations as may be advisable and appropriate to enforce the Act,<sup>340</sup> and violations of those regulations are separate crimes.<sup>341</sup> The interpretation of a statute by an agency charged with enforcing it is entitled to deference;<sup>342</sup> in some cases, the Supreme Court has accepted an administrative interpretation even though the Court might have read the statute differently as an initial matter, as long as the agency version was sufficiently reasonable.<sup>343</sup>

The implications of the FWS regulation are obviously broad and deep. Innumerable human endeavors could run afoul of this protective mechanism if a listed species resides in the vicinity—river pollution, suburban development, timber harvesting, water resources projects, transportation systems, and back country leisure activities are all likely candidates. Seeing such implications, several commentators have criticized the administrative position as duplicative of section 7 and beyond congressional contemplation.<sup>344</sup> Those critical opin-

*discussed in United States v. FMC Corp.*, 428 F. Supp. 615, 617 n.2 (W.D.N.Y. 1977) and *United States v. Corbin Farm Serv.*, 444 F. Supp. 510, 533 (E.D. Cal.), *aff'd*, 578 F.2d 259 (9th Cir. 1978). See also Coggins & Patti, *supra* note 255, at 184 (discussing above cases).

334. See *United States v. Corbin Farm Serv.*, 444 F. Supp. 510, 536 (E.D. Cal.), *aff'd*, 578 F.2d 259 (9th Cir. 1978) (courts constitutionally can impose criminal penalties under MBTA for bird deaths resulting from negligent insecticide spraying).

335. See *United States v. FMC Corp.*, 572 F.2d 902, 908 (2d Cir. 1978) (upholding conviction for bird deaths caused by accidental discharge of wastewater from pesticide manufacturing process).

336. See generally Coggins & Patti, *supra* note 255, at 182-93 (discussing scienter and Migratory Bird Treaty Act); Margolin, *supra* note 328, at 992-1001 (same); Note, *Courts Hold Scienter Not Required for Conviction Under Migratory Bird Treaty Act*, 8 ENVTL. L. REP. (ENVTL. L. INST.) 10,029, 10,092-94 (1978) (same); Note, *supra* note 328, at 246-57 (same).

337. Coggins & Patti, *supra* note 255, at 193-94; Note, *supra* note 328, at 244-46.

338. 50 C.F.R. § 17.3 (1981) (emphasis added).

339. 16 U.S.C. § 1533(f) (1976).

340. *Id.* §§ 1533(d)-(e), 1538(d) (1976 & Supp. IV 1980).

341. *Id.* § 1540(a), (b) (Supp. IV 1980).

342. See *Red Lion Broadcasting v. FCC*, 395 U.S. 367, 381 (1969) (Communications Act of 1934); *Udall v. Tallman*, 380 U.S. 1, 16 (1965) (Mineral Leasing Act of 1920).

343. *Train v. Natural Resources Defense Council*, 421 U.S. 60 (1975) (Clean Air Act Amendments of 1970).

344. M. BEAN, *supra* note 44, at 395-97; Lachenmeier, *supra* note 16, at 39-41; Note, *supra* note 270, at 1251 n.31. The Reagan Administration is also critical of the regulation, and it proposed modifications of June 1981. 46 Fed. Reg. 29,490 (1981). The FWS later backed down. See 12 ENV'T. REP. (BNA) No. 31, at 939 (Nov. 27, 1981).



ions, however, were rendered before the Supreme Court concluded in *TVA v. Hill* that the Act was to be interpreted liberally to accomplish its aims, regardless of asserted economic costs. Even more to the point, the Court quoted the FWS regulation with seeming approval and stated: "We do not understand how TVA intends to operate Tellico Dam without 'harming' the snail darter."<sup>345</sup> That the Court indeed understood the implications of this statement is borne out by Mr. Justice Powell in dissent: "[T]he reach of this regulation—which the Court accepts as authorized by the Act—is virtually limitless. All one would have to find is that the 'essential behavioral patterns' of any living species as to breeding, feeding or sheltering are significantly disrupted by the operation of an existing project."<sup>346</sup> The Court's statement regarding section 9 does not amount to a holding because the Court's analysis of congressional intent underlying section 7 was dispositive. Even as dictum, however, it has ominous implications for many land users.

An all-inclusive interpretation of the taking provision might render the controversial section 7 requirements and procedures superfluous, because no federal connection to the challenged activity would be required.<sup>347</sup> Moreover, the degree of harm to the species as a whole would be irrelevant for the taking of just one member is a violation of the statute.<sup>348</sup>

The few judicial decisions on the question are mixed, but the emerging position seems to be that habitat modification does constitute a taking and may be enjoined in appropriate circumstances. Neither the Snail Darter nor the Mississippi Sandhill Crane courts had occasion to rule on the question. The court in the Indiana Bat case held that no violation of section 9 occurred even though some habitat destruction and some direct mortality appeared inevitable.<sup>349</sup> The Indiana Bat opinion, however, may be safely disregarded because

345. *TVA v. Hill*, 437 U.S. 153, 184-85 n.30 (1978).

346. *Id.* at 208 n.16 (Powell, J., dissenting) (quoting the FWS regulation).

347. Section 9 applies to any person subject to the jurisdiction of the United States and to any species within the United States or the territorial seas of the United States. 16 U.S.C. § 1538(a)(1) (1976).

The best illustration is *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981), discussed *infra* at notes 359-84 and accompanying text. The court held that the state's maintenance of feral sheep and goat herds that destroyed the mamane-naio forest essential to the Palila's survival was clearly within the definition of a "taking" since that term includes "harm," which was defined by FWS to include "significant environmental modification or degradation." 471 F. Supp. at 995. The case did not involve a section 7 question because there was no federal involvement in management or projects within the area.

348. 16 U.S.C. § 1538(a)(1) (1976). Section 1533(e) empowers the Secretary of the Interior to treat any species as an endangered or threatened species if he finds that it so closely resembles a listed species that enforcement personnel would have substantial difficulty in differentiating between the two, that the similarities between the two pose an additional threat to an endangered or threatened species, and that such designation will contribute to furtherance of the policies of the Act. This power tends to confirm that the "taking" of just one member is a violation.

349. The court in *Sierra Club v. Froehke*, 534 F.2d 1289 (8th Cir. 1976), stated:

The bats inhabiting the area are found primarily in caves in and around the [proposed reservoir] area. Caves which will be flooded as a result of the creation of the Meramec Reservoir will, of course, no longer furnish shelter for the bat . . . .

. . . In addition it was pointed out from the EIS that Mud Cave 1 and Bat Cave, in the flood pool, hibernating areas for about 5000 bats, "will be inundated periodically and could become a trap for hibernating bats."

534 F.2d at 1303. It then held that plaintiff's section 9 allegation rested "upon the asserted ground that the erection of the dam is a 'clear attempt to harass or harm' the Indiana bat. We are cited to no portion

it conflicted with *Hill* and, therefore, was effectively overruled.<sup>350</sup>

Two more recent decisions are far more valuable as precedent. In *North Slope Borough v. Andrus*<sup>351</sup> plaintiffs sought to keep the Secretary of the Interior from authorizing the sale of oil and gas leases in the Beaufort Sea north of Alaska.<sup>352</sup> The district court's attention was devoted to questions arising from section 7 and other statutes, and it enjoined further steps in the lease sale on those grounds.<sup>353</sup> Plaintiffs also alleged that the consequences of the lease sale would constitute a taking of the endangered bowhead whale, other marine mammals, and migratory birds.<sup>354</sup> The evidence indicated a strong possibility that some mortality and habitat modification would result from drilling and support activities.<sup>355</sup> After canvassing the relevant statutes, treaties, and regulations, the court wrote:

The statutes and treaties do not require the government to halt all activity merely because there is a possibility that agency action will result in a "taking" at some future time. Rather, the government must proceed with caution to ensure that agency action does not eventually violate the aforesaid laws.

While the EIS indicates that the government might well encounter serious difficulty in complying with the above mentioned statutes and treaties, injunctive relief should not herein issue unless danger to the protected species is sufficiently imminent or certain. Otherwise, government activity would be prematurely halted, and statutes authorizing specific activity—like the OCSLA—would be undermined. The lease sale itself threatens no species. The Secretary has both the power and the obligation to ensure that the applicable laws are en-

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of the record so stating nor do we believe that from a fair reading thereof any such attempt may be found." *Id.* at 1304.

350. See generally *supra* notes 261-69 and accompanying text (discussing *Hill* Court's interpretation of congressional intent in § 7 of ESA).

351. 486 F. Supp. 332 (D.D.C. 1980), *rev'd*, 642 F.2d 589 (D.C. Cir. 1981).

352. *Id.* at 339.

353. See *infra* notes 440-55 and accompanying text (discussing § 7 aspects of *North Slope*).

354. The plaintiffs alleged violations of four federal statutes other than NEPA and ESA. In response to their claim that the Secretary of the Interior had shirked his trust responsibility to protect the Inupiat, the district court held that the EIS had alerted the Secretary to the impact that the lease sale and its activities would have on the native Alaskans' lifestyle; to the extent the Secretary had not complied with the ESA, he also had breached his trust responsibilities. 486 F. Supp. at 344. The Court rejected plaintiff's claim that the Department of the Interior had violated three sections of the Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1339-1343 (1976 & Supp. IV 1980). 486 F. Supp. at 358-60. The court also rejected claims that the Marine Mammal Protection Act, 16 U.S.C. §§ 1361-1407 (1976 & Supp. IV 1980), and the Migratory Bird Treaty Act, 16 U.S.C. §§ 706-712 (1976 & Supp. IV 1980), were being violated because activities resulting from the lease sale would take species protected by those acts. See *infra* text accompanying note 356 (quoting from district court opinion in *North Slope*).

355. The EIS for the proposed lease sale observed that serious environmental impacts might occur if an oil slick developed: "Some consequences will probably be the oiling and subsequent death of seals or large flocks of birds that swim or dive through the slick. Numbers of both these groups of animals (ringed seals, old squaw, and other ducks) would be unavoidably reduced. Polar bear populations would also be reduced." 486 F. Supp. at 340-41 (quoting EIS). The EIS also stated that acute and chronic oil spills could directly cause the loss of large numbers of birds or damage their habitats; that unavoidable effects of increased development and disturbance could result in a general reduction in wildlife; and that based on the worst case assumptions, which plaintiffs argued were not really the worst possible assumptions, the bowhead and gray whales could be severely affected. The EIS disclosed that "the lack of scientific data precludes quantitative or qualitative assessment of positive or negative impacts of oil and gas development on the Bowhead and Gray whales." *Id.* (quoting EIS).

forced. Until the species are so significantly threatened that continued activity by the Secretary would be arbitrary and capricious, this Court cannot, without further Congressional direction, enjoin the activity, pursuant to the aforementioned statutes and treaties.<sup>356</sup>

In other words, the action may proceed up to the point at which the harm is "sufficiently imminent and certain"; when the protected species are "significantly threatened," injunctive relief may be proper. As the court already had enjoined further lease sale activity, the quoted remarks appear to be dicta. If meant as a holding, they will be difficult to implement: in cases when the danger to species is only a possibility, such as the possibility of an oil spill in the *North Slope* case, the imminence or certainty of the risk cannot be ascertained before it occurs.

The *North Slope* court's reluctance to use the wildlife laws in the manner suggested by plaintiffs is understandable. Just as the district court in the Snail Darter litigation could not fathom how an enormous dam could be stopped merely for the sake of an obscure fish,<sup>357</sup> so too is it difficult for a court to enjoin a billion dollar transaction because of results that might never occur. In spite of the dearth of citation or discussion in the *North Slope* opinion on this point, its most noteworthy aspect may be the court's asserted willingness to enjoin a section 9 violation in more dire circumstances. The case was later reversed in part on other grounds.<sup>358</sup>

The second decision construing section 9 went all the way. In *Palila v. Hawaii Department of Land and Natural Resources*<sup>359</sup> the court entered an injunction requiring the state agency to dismantle an otherwise proper program because its continuance constituted an indirect taking of an endangered bird through loss of habitat.<sup>360</sup> The case was a pure "taking" problem: because there was no federal action, section 7 did not apply.<sup>361</sup> The palila is a nonmigratory bird, a small honeycreeper that lives only in Hawaiian mamane forests.<sup>362</sup> It was listed as endangered in 1967,<sup>363</sup> and the remaining ten percent of its original range was designated critical habitat in 1977.<sup>364</sup> One major reason for the shrinking of the mamane habitat was the presence of feral sheep and goat herds that the State maintained to provide sport for hunters.<sup>365</sup> A federal recovery team had recommended removal or curtailment of the herds because of their destructive effect on the forest habitat of the palila, but state decisionmakers refused to inconvenience the hunters.<sup>366</sup> The Sierra Club brought suit in the name of the species<sup>367</sup> for protection of the palila from

356. *Id.* at 362.

357. That court termed the eventual result unreasonable. *Hill v. TVA*, 419 F. Supp. 753, 760 (E.D. Tenn. 1976), *rev'd sub nom. TVA v. Hill*, 437 U.S. 153 (1978); *see id.* at 196 (Powell, J., dissenting) (district court termed result "absurd").

358. *North Slope Borough v. Andrus*, 642 F.2d 589 (D.C. Cir. 1980). *See infra* notes 440-55 and accompanying text (discussing D.C. Circuit's opinion in *North Slope*). The reversal did not affect the "taking" language of the district court opinion.

359. 471 F. Supp. 985 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

360. *Id.* at 995.

361. *Id.* at 987.

362. *Id.* at 988.

363. 32 Fed. Reg. 4001 (1967); 50 C.F.R. § 17.11 (1981).

364. 50 C.F.R. § 17.95 (1981).

365. 471 F. Supp. at 989 & n.9.

366. *Id.* at 900 n.13, 991.

367. The suit was filed by the Sierra Club, the National Audubon Society, and an individual, on their own behalf and as next friends of the palila. *Id.* at 987; *cf. Stone, Should Trees Have Standing?—*

harm caused by the sheep and goats.<sup>368</sup>

Most of the district court's opinion dealt with questions of constitutional power. The court held that Congress could forbid state activities on state lands in order to protect a nonmigratory species of no known commercial value<sup>369</sup> and that the legislation could be enforced against the state by private parties in federal court.<sup>370</sup> In contending that the state agency's refusal to dispatch the sheep and goats was not a taking, the State argued that the palila population was not yet at its lowest sustainable population;<sup>371</sup> that its population had increased and the present habitat had room for further increases;<sup>372</sup> that captive propagation had not yet been attempted;<sup>373</sup> that the mamane forest condition had improved;<sup>374</sup> that remedies less drastic than total removal of the sheep would protect the forest;<sup>375</sup> that further studies should be made;<sup>376</sup> and that no taking occurred because the forest was regenerating.<sup>377</sup> The court rejected all such contentions in view of the experts' testimony and recommendations. The court noted that census information only proved that few palilas remained.<sup>378</sup> That the population was less than the asserted carrying capacity of its habitat only emphasized the species' plight.<sup>379</sup> Captive breeding would have been pointless without a habitat that would sustain the birds upon release.<sup>380</sup> The State's request to use "intensive management" (more shooting) for keeping the number of feral animals lower was met with judicial skepticism:

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*Toward Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450 (1972) (proposing legal rights for "natural objects"); Favre, *supra* note 39 (same).

368. 471 F. Supp. at 987.

369. The court held that "the 10th Amendment does not restrict enforcement of the Endangered Species Act, both because of the power of Congress to enact legislation implementing valid treaties and because of the power of Congress to regulate commerce." *Id.* at 995. It explained that:

Congress has determined that protection of any endangered species anywhere is of the utmost importance to mankind, and that the major cause of extinction is destruction of natural habitat. In this context, a national program to protect and improve the natural habitats of endangered species preserves the possibilities of interstate commerce in these species and of interstate movement of persons, such as amateur students of nature or professional scientists who come to a state to observe and study these species, that would otherwise be lost by state inaction.

*Id.* at 994-95 (citing *TVA v. Hill*, 437 U.S. 153 (1978), and *Brown v. Anderson*, 202 F. Supp. 96 (D. Alaska 1962)), as authority for theory that federal power over wildlife is derived from interstate movement of persons who study or use wildlife).

370. 471 F. Supp. at 999. The court adhered to the general principle that a state may not be sued without its consent, but officials of the state may be enjoined from violating federal laws or the United States Constitution. *Id.* at 996. In applying that rule to the facts of the case, the court noted that § 1540(g) of the ESA expressly authorizes citizens to bring suit to enjoin violations of the Act, including those of any government agency or instrumentality to the extent permitted by the eleventh amendment. To interpret this section as creating blanket sovereign immunity to private enforcement of the Act would "seriously impair the achievement of the broad Congressional purposes underlying an effective remedy." *Id.* at 997. The court also stressed that Hawaii, by enacting the Hawaii Endangered Species Act—so it could receive federal funds and avoid federal preemption of Hawaii's authority in regulating endangered species—had bound itself to refrain from "taking" endangered species and so had impliedly consented to be sued under the Act. *Id.* at 998-999.

371. *Id.* at 988 n.2.

372. *Id.* at 989 n.6.

373. *Id.* at 989 n.7.

374. *Id.* at 990.

375. *Id.* at 990-91.

376. *Id.* at 999.

377. *Id.* at 995 n.41.

378. *Id.* at 988 n.2.

379. *Id.* at 989 n.6.

380. *Id.* at 989 n.7.

[L]ooking realistically at the feasibility of such a program, I conclude that defendant's intensive management program would be an ineffective solution to regeneration of the forest because of the inevitable hunter pressure to increase the feral sheep herd as long as any sheep remain in the forest, defendants' demonstrated susceptibility to that pressure, and the destructive effect on the forest of even a small number of sheep . . . .<sup>381</sup>

The court determined that "the undisputed facts bring the acts and omissions of defendants clearly within [the FWS definition of "harm"]."<sup>382</sup>

The United States Court of Appeals for the Ninth Circuit affirmed *Palila* in 1981.<sup>383</sup> The *Palila* decision is absurd and outrageous, or wise and wonderful, depending on one's point of view. If accepted by the other circuits,<sup>384</sup> this interpretation of the ESA likely will generate considerable land use litigation. At issue in *Palila* was a long-established, ongoing program conducted by a sovereign state to serve its conception of the public interest in recreation. The State had no intention or desire to harm the birds. The harm was doubly indirect as the offense was the failure to remove sheep that ate the seedlings of trees that would have provided a critical habitat for an expanding palila population.

Previous attention concerning the conflict between endangered species and human activities had focused on new projects such as dams and refineries. The *Palila* rationale jeopardizes any program or traditional activity by anyone if a causal nexus can be established between it and the decline of a listed species: clearcutting and the decline of certain birds, overgrazing and the decline of Sonoran pronghorn antelopes, poisons and the decline of predators such as bald eagles and kit foxes, borax mining operations and the decline of California condors, farming and blackfooted ferrets—the list of examples is as long as the list of native endangered species because such activities were primary or secondary causes of endangerment in the first place.<sup>385</sup> Remarkably, Congress did not amend the sections on taking in 1978. It instead inserted a provision in section 7 that appears to recognize that one action or project can give rise to violations of both section 7 and section 9.<sup>386</sup>

### III. THE 1978 AMENDMENTS

*The congressional reaction to the Hill decision was swift, immediate and indecisive.*

W. RODGERS, ENERGY AND  
NATURAL RESOURCES LAW  
467 n.5 (1979).

381. *Id.* at 990.

382. *Id.* at 995.

383. *Palila v. Hawaii Dep't of Land and Natural Resources*, 639 F.2d 495 (9th Cir. 1981).

384. The First Circuit apparently concurs with *Palila*. See *Romero-Barcelo v. Brown*, 643 F.2d 835, 858 (1st Cir. 1981), *rev'd on other grounds sub nom. Weinberger v. Romero-Barcelo*, 102 S. Ct. 1798 (1982).

385. See *Ripley & Lovejoy*, *supra* note 50, at 365-67.

386. 16 U.S.C. § 1536(o) (Supp. IV 1980) ("any action for which an exemption is granted . . . shall not be considered a taking of any endangered or threatened species with respect to any activity which is necessary to carry out such action").

The *Hill* Court was fully aware that its decision had the effect of stopping progress on a massive, virtually completed federal project that was authorized long before the Endangered Species Act was conceived or the snail darter discovered. Recognizing that many would consider the result "curious" or absurd, the Court termed the situation a "paradox," especially because Congress continued to appropriate funds for the project with knowledge of the darter's danger.<sup>387</sup> The majority rejected Justice Powell's plea to water down the statutory language "with some modicum of commonsense and the public weal,"<sup>388</sup> for it found the statute and legislative history unambiguous.<sup>389</sup> The Court rested ultimately on a separation of powers theory, emphasizing that proper judicial review precludes inquiry into the wisdom of the legislative choice.<sup>390</sup> The holding was essentially conservative in that the law was applied as it was written, forcing the political branch to make the political judgments and adjustments. Both the majority and the dissent recognized that the practical result of the decision was to remand the fate of the Tellico Dam, and perhaps that of the ESA, to the mercy of Congress.<sup>391</sup>

The legislature acted quickly but inconclusively. The 1978 Endangered Species Act Amendments<sup>392</sup> have been the subject of numerous jeremiads forecasting wholesale extinction of species.<sup>393</sup> But it is plausible that the awkward and complex new procedural structure that Congress erected is a relatively minor injection of flexibility into the process. Little of substance was changed: the most important provisions narrow the Secretary's discretion in critical habitat designation and set stringent criteria for giving exceptional projects precedence over species' welfare. The amendments create two new administrative bodies to resolve conflicts arising under section 7.<sup>394</sup> In the end the most significant aspect of the hastily passed 1978 amendments probably will be the congressional affirmation of the *Hill* holding embodied in the amendments.<sup>395</sup> This section summarizes the statutory changes relevant to the Act's effects on land use.

387. *TVA v. Hill*, 437 U.S. 153, 172 (1978).

388. *Id.* at 196 (Powell, J., dissenting).

389. *Id.* at 184. "Congress has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which is described as 'institutionalized caution.'" *Id.* at 194.

390. "[I]n our constitutional system the commitment to the separation of powers is too fundamental for us to preempt congressional action by judicially decreeing what accords with 'common sense and the public weal.'" *Id.* at 195. The Court noted that it lacked both expert knowledge on the subject of endangered species and a mandate from the people to "strike a balance of equities on the side of the Tellico Dam." *Id.* at 194. It further stated that "[o]nce the meaning of an enactment is discerned and its constitutionality determined, the judicial process comes to an end. We do not sit as a committee of review, nor are we vested with the power of veto." *Id.* at 194-95.

391. *Id.* at 195 ("[o]ur Constitution vests such responsibilities in the political branches"); *id.* at 210 (Powell, J., dissenting) ("I have little doubt that Congress will amend the Endangered Species Act to prevent the grave consequences made possible by today's decision").

392. Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, 92 Stat. 3751 (codified at 16 U.S.C. §§ 1532-1536, 1538-1540, 1542 (Supp. IV 1980)).

393. See Goplerud, *supra* note 28, at 504-09 (flexibility added by amendments "could spell doom for plants and wildlife"); Rosenberg, *supra* note 145, at 529-39 (amendments reflect congressional shift in doctrine); Stromberg, *supra* note 28, at 529-39 (same). *But cf.* Comment, *Endangered Species Act Amendments of 1978: A Congressional Response to Tennessee Valley Authority v. Hill*, 5 COLUM. J. ENVTL. L. 283, 304-15 (1979) (presenting background and balanced evaluation of amendments).

394. See 16 U.S.C. § 1536(e), (g)(3)(A) (Supp. IV 1980).

395. The affirmation was both inferential in that Congress failed to revise substantively the language

## A. CRITICAL HABITAT LISTING

*"[If critical habitat for the grizzly is designated as proposed] it is hard to say which may have priority, the ghetto's child and the need he has for decent housing, or the grizzly bear's safety from man's incursion into his habitat."*

Rogers, *Are Our Natural Resources on the Endangered Species List?* XI NAT. RESOURCES LAW 267, 270 (1978).

In the 1978 amendments, Congress for the first time defined critical habitat<sup>396</sup>—somewhat narrowly—and decreed that its designation take place contemporaneously with listing unless such designation would be imprudent.<sup>397</sup> Prior to 1978, the FWS had by regulation defined critical habitat as:

any air, land, or water area (exclusive of those existing man-made structures or settlements which are not necessary to the survival and recovery of a listed species) and constituent elements thereof, the loss of which would appreciably decrease the likelihood of the survival and recovery of a listed species and may include additional areas for reasonable population expansion.<sup>398</sup>

By 1978 critical habitat had been designated for only twenty-nine species.<sup>399</sup> In some cases failure to designate was easily justified on the ground that designation itself could have led to a decline of the species: delineating the area occupied by rare plants or shy animals could have resulted in the plants' being stolen by collectors or the animals' being disrupted by spectators.<sup>400</sup> In other cases, such as that of the ivory-billed woodpecker, designation would have been extremely difficult due to a dearth of information about the species.<sup>401</sup> Administrative timidity apparently caused the failure to designate in many other instances.<sup>402</sup>

Designation of critical habitat for the threatened grizzly bear was the most acute problem. Although present grizzly populations are perilously low compared to historic numbers and distribution, the remaining bears range over millions of acres. The Service boldly proposed critical habitat designation of

construed by the *Hill* Court, 16 U.S.C. § 1536(a) (Supp. IV 1980), and also explicit in that many legislators conceded the correctness of the judicial construction.

396. 16 U.S.C. § 1532(5) (Supp. IV 1980).

397. *Id.* § 1533(a)(1).

398. 50 C.F.R. § 402.02 (1981).

399. *Hearings Before the Subcomm. on Fisheries and Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries*, 95th Cong., 2d Sess. 859 (1978) (statement of Lynn A. Greenwalt, Dir. of FWS).

400. It was reported, for instance, that some zealous—but prudently anonymous—supporters of the Dickey-Lincoln Project in Maine threatened to eradicate the Furbish lousewort to remove the barrier to the project. Similarly, pinpointing the location of American ginseng plants would almost certainly have harmed the species, because it commands a high price as a potency restorative.

401. Sightings of this woodpecker are rare and unconfirmed, and it may be extinct. 12 NAT'L WILDLIFE (April-May 1974), at 30, 33, 36.

402. See *supra* notes 289-91 and accompanying text (discussing critical habitat designation).

much of that area,<sup>403</sup> all the while emphasizing that critical habitat did not mean no use at all by humans.<sup>404</sup> Congressional reaction was negative,<sup>405</sup> and, for whatever reason, the proposal was never translated into a final regulation. Similar political problems face the FWS today in determining the critical habitat of other wide-ranging or widely-distributed species such as bald eagles and bowhead whales. Because severe restrictions on human use automatically attach to the designation of an area as the critical habitat of an endangered species, political battles and agency reluctance to trigger such battles are inevitable.

In the 1978 Amendments Congress partially cooled the political heat but considerably increased the administrative burden of critical habitat designation. "Critical habitat" is now defined by statute as:

(i) the specific areas within the geographical area occupied by the species, at the time it is listed . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary that such areas are essential for the conservation of the species.<sup>406</sup>

Habitat designations for species already listed may be accomplished under the same criteria.<sup>407</sup> Congress further stated: "Except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species."<sup>408</sup>

These provisions apparently narrow the concept of critical habitat from the area in which species do or could live to a smaller area necessary for survival at present levels with "special management." The ban on activities that adversely modify habitat, therefore, will not extend to the entire area in which the species may be found, but only to certain specified areas within the range that are identified as needing special protection. The Secretary retains discretion to designate the entire geographical range of small, confined, fragile populations, such as that of the snail darter.<sup>409</sup> An unresolved question is how the habitat designation limitations will mesh with the Secretary's unchanged power to list a species endangered in only a significant portion of its range.<sup>410</sup>

In addition to narrowing the geographic scope of critical habitat, Congress also provided:

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403. See S. REP. NO. 874, 95th Cong., 2d Sess. 10 (1978) (as much as 10 million acres of Forest Service land involved in critical habitat proposed for grizzly bear by FWS).

404. See Schreiner, *Critical Habitat: What It Is—and Is Not*, 1 ENDANGERED SPECIES TECH. BULL. (DEPT. OF INTERIOR) No. 2, at 1 (1976) (critical habitat restrictions apply only to actions requiring federal funds or approval and do not create sealed off area).

405. See S. REP. NO. 874, 95th Cong., 2d Sess. 10 (1978) (expressing congressional concern over extent of proposed critical habitat for grizzly bears).

406. 16 U.S.C. § 1532(5)(A)(i)-(ii) (Supp. IV 1980).

407. *Id.* § 1532(5)(B).

408. *Id.* § 1532(5)(C).

409. *Id.*

410. *Id.* § 1533(c)(1).



In determining the critical habitat of any endangered or threatened species, the Secretary shall consider the economic impact, and any other relevant impacts, of specifying any particular area as critical habitat, and he may exclude any such area from the critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying the area as part of the critical habitat, unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species.<sup>411</sup>

The balancing process is now in the hands of the Secretary, who is free to avoid or further restrict designation if, in his view, its impact would be unduly harsh. The matter thus rests in the Secretary's unfettered judgment, except in cases in which extinction will result or perhaps in cases of obvious arbitrariness.

Critical habitat designation already has caused an administrative breakdown: most of the species that were candidates for listing in November 1978 were later withdrawn because the FWS was unable to make the simultaneous critical habitat determinations.<sup>412</sup> In spite of the administrative difficulties and the probability of future listing delays, wildlife proponents have some reason for optimism. Requiring both determinations to be made initially should result in better and more thorough studies of the species nominated, and the information generated should assist the recovery team and eventually the species. Prior designations are not affected, although the Secretary has the power to revise them in light of the new criteria. Each listed species eventually will live in quasi-sanctuaries, of more limited geographic area, where it will be protected to the full extent of the law.<sup>413</sup> That extent remains considerable even with the advent of the Endangered Species Committee, also known as the God Committee.<sup>414</sup>

#### B. THE CONSULTATION AND EXEMPTION PROCESSES

*"If that's all the good the [Endangered Species] committee can do, to put us right back where we started from, we might as well save the time and expense."*

Senator Howard Baker, *quoted in*  
Goplerud, *The Endangered Species Act:  
Does It Jeopardize the Continued  
Existence of Species?*, 1979 ARIZ. ST.  
L.J. 487, 507.

The amendments to section 7 added numerous new provisions to clarify and

411. *Id.* § 1533(b)(4).

412. 44 Fed. Reg. 12,382 (1979). Designation of critical habitat for species already listed at the time of the Act may be accomplished by the procedure set forth in section 1532(5)(A).

413. *See supra* notes 287-311 and accompanying text (discussing federal agencies' duty to ensure against critical habitat destruction).

414. As explained in *infra* notes 492-543 and accompanying text, the ESC is given literal life-or-death power over the fate of endangered species, thus the nickname.

expand the procedures necessary for compliance with the original section.<sup>415</sup> The additions established the cabinet-level Endangered Species Committee (ESC) with power to grant exemptions from the requirements of the section,<sup>416</sup> delineate the powers of that Committee,<sup>417</sup> and define the procedures to be followed by an entity seeking exemption for a project.<sup>418</sup> The legislative history of the amendments reveals that Congress wished to introduce flexibility into the process—to allow important federal projects to go forward despite their effects, while retaining the basic legal protection earlier accorded listed species.<sup>419</sup> The resulting statute is schizoid: Congress attempted to legislate the best of both worlds but succeeded only in passing responsibility to a vague new entity. Although some members of Congress apparently decided that the exceptional federal project should take precedence over the endangered species when the two irreconcilably conflict, the Act's procedures and criteria defining the mission of the Committee create a strong presumption in favor of the species. An agency may win an exemption only after it demonstrates good faith compliance with the Act, especially in the consultation process, and a willingness to minimize the harm the project in question would cause an endangered species.

## 1. Consultation

The amended version of the Act retains and reemphasizes the procedural requirement that all federal agencies consult with the Secretary of the Interior.<sup>420</sup> Both the wording of the statute and the legislative history indicate that consultation with the Secretary is crucial.<sup>421</sup> Before 1978 consultation was an ill-defined, informal process, the results of which were exaggerated and ballyhooed.<sup>422</sup> The consultation requirement is now formal and mandatory to facilitate resolution of conflicts at this stage.<sup>423</sup>

Congress added four provisions to "expedite and improve the consultation process";<sup>424</sup> from these a new series of procedures has emerged. First, new subsection 7(b) requires that consultation be completed within ninety days "or within such other period of time as is mutually agreeable to the Federal agency and the Secretary."<sup>425</sup> Second, after the consultation is concluded, the Secretary must submit to the action agency a written opinion explaining how the

415. 16 U.S.C. § 1536 (Supp. IV 1980).

416. *Id.* § 1536(e).

417. *Id.* § 1536(h)(1).

418. *Id.* § 1536(g)(1), (2).

419. See 124 CONG. REC. 21,131-33 (1978) (remarks of Sen. Culver) (discussing need for flexibility without sacrificing integrity of Act).

420. 16 U.S.C. § 1536(a) (Supp. IV 1980).

421. See H.R. REP. NO. 1625, 95th Cong., 2d Sess. 11 (1978) (declaring consultation process central to resolution of conflicts under Act). Senate Bill 3238 would have allowed agencies and departments with in-house wildlife expertise to consult with the Secretary "only as they desire" or upon published request of the Secretary. 124 CONG. REC. 21,567 (1978). Rejection of this provision underscores the congressional intent that the consultation process is significant and cannot be fragmented or truncated.

422. The Secretary of the Interior, in the wake of *Hill*, made much of the purported fact that only three or four of the almost 5,000 consultations undertaken by the FWS had gone to litigation over unresolved conflicts. He also estimated a future consultation load of 20,000 per year. 1978 *ESA Hearings*, *supra* note 4, at 113 (statement of Mr. Herbst).

423. 16 U.S.C. § 1536(b) (Supp. IV 1980); H.R. REP. NO. 1804, 95th Cong., 2d Sess. 18 (1978).

424. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 18 (1978).

425. 16 U.S.C. § 1536(b) (Supp. IV 1980).

action will affect the species or its critical habitat, providing the information on which the opinion is based, and suggesting "reasonable and prudent alternatives" that would avoid endangering the species or its habitat.<sup>426</sup> The language of section 7(b)<sup>427</sup> and the report on the House Bill<sup>428</sup> indicate that the only alternatives that may be considered at this stage are those within the existing jurisdiction of the Secretary of the Interior and the action agency. Third, new subsection 7(c) requires the action agency to conduct a biological assessment of its proposal after the Secretary determines that listed species or those proposed to be listed may be in the area.<sup>429</sup> Fourth, after the consultation has begun, section 7(d) precludes the federal agency from making any "irreversible or irretrievable" commitments of resources that would effectively foreclose the implementation of reasonable and prudent alternatives.<sup>430</sup>

One can hardly overstate the importance of the consultation requirement: failure to consult or failure to fulfill the expanded duties relating to consultation precludes the action agency from obtaining an exemption from the ESC.<sup>431</sup> The agency therefore has several incentives to consult and cooperate fully with the FWS from the inception of its project planning. If no listed species or detrimental impact is ascertained in the process, the project can proceed with the FWS's biological seal of approval.<sup>432</sup> If trouble looms, early consideration can be given to alternative means or mitigation measures before investment of resources and emotion renders the conflict irreconcilable. Furthermore, if the action agency refuses to take advantage of the consultation process, the project is dead because the absolute rule of *Hill* is resurrected and no exemption is available—unless, of course, Congress chooses to act as it did in the Tellico Dam imbroglio, by overriding the ESC determination.<sup>433</sup>

Before the 1978 Amendments, the action agency's failure to consult in *Nebraska v. Rural Electrification Administration* was fatal.<sup>434</sup> Post-1978 cases involving offshore oil leases have evolved the principles that consultation is a phased, ongoing process coinciding with the various pre-production lease sale steps and that consultation need not be exhaustive in the first phase. An example is *Conservation Law Foundation, Inc. v. Andrus*.<sup>435</sup> In that case, the United States Court of Appeals for the First Circuit refused to enjoin the Georges Bank lease sale.<sup>436</sup> Plaintiffs asserted that the lease sale would violate section

426. *Id.*

427. "The Secretary shall suggest those reasonable and prudent alternatives . . . [that] can be taken by the Federal agency or the permit or license applicant in implementing the agency action." *Id.*

428. See H.R. REP. No. 1804, 95th Cong., 2d Sess. 20 (1978) (discussing broader scope of review board's consideration).

429. 16 U.S.C. § 1536(c)(1) (Supp. IV 1980).

430. *Id.* § 1536(d).

431. *Id.* § 1536(g)(5).

432. If, however, after an agency action has commenced, additional information shows that an endangered species is threatened, consultation must begin and additional resources may not be committed to the project. *Id.* § 1536(d). In *Hill*, the Tellico Dam was 75 percent completed at the time the snail darter was discovered. *TVA v. Hill*, 437 U.S. 153, 197 (1978) (Powell, J., dissenting).

433. See *infra* notes 544-49 and accompanying text (discussing Congress' directions that Committee decide projects' fate). Congress later exempted Tellico from the ESA, and the dam was completed.

434. See *supra* notes 297-309 and accompanying text (discussing *Nebraska v. Rural Electrification Admin.*).

435. 623 F.2d 712 (1st Cir. 1979).

436. *Id.*

7(d) of the ESA because the Secretary of the Interior would be making an irreversible or irretrievable commitment of resources, thereby foreclosing the implementation of alternatives that would avoid jeopardizing the existence of any endangered species.<sup>437</sup> The court reasoned, however, that the Secretary through contract stipulation retained adequate regulatory power over lessees to prevent any future action that could violate the ESA.<sup>438</sup> The implicit ruling was that no violation of section 7(d) occurred because no resources were irretrievably committed.<sup>439</sup>

The District of Columbia courts eventually adopted the rationale of the Georges Bank opinion in *North Slope Borough v. Andrus*,<sup>440</sup> a suit attempting to halt the sale of oil leases in the Beaufort Sea. The National Marine Fisheries Service (NMFS), which performs biological assessments on marine species, had consulted and studied the possible effects of lease activities on endangered bowhead whales.<sup>441</sup> Because of insufficient information, the NMFS was unable to reach any definitive conclusions other than that the whale "is expected to be seriously impacted by any perturbation that increases stress on the population."<sup>442</sup> The district court enjoined the sale. It found that the analysis was "woefully inadequate as a biological opinion,"<sup>443</sup> not because of inadequate factual bases, but because it failed to address the statutory requirements of impact assessment and delineation of alternatives.<sup>444</sup> The court ruled that the consultation process does not end until the action agency issues a biological opinion based on adequate information.<sup>445</sup> Before that time the action agency proceeds at its own risk and can be enjoined from committing resources to the project that might foreclose adoption of reasonable alternatives.<sup>446</sup> "Thus, once a § 7(a)(2) issue arises, the consultation process is activated, § 7(d) is effective, and resources may not be committed in violation of this section."<sup>447</sup>

The United States Court of Appeals for the District of Columbia Circuit quickly vacated the injunction.<sup>448</sup> The appellate court first distinguished *Hill* by pointing out that no critical habitat had been designated and no finding of total jeopardy had been made.<sup>449</sup> Although it agreed with the district court that the biological opinion could not be limited exclusively to any one particular stage of a project, it nevertheless held that the NMFS letter was such an

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437. *Id.* at 714.

438. *Id.* at 715. See Martin, *The Interrelationships of the Mineral Lands Leasing Act, the Wilderness Act, and the Endangered Species Act: A Conflict in Search of Resolution*, 12 ENVTL. L. 363, 390-96 (1982) (discussing impact of section 7 on oil and gas leasing decisions).

439. 623 F.2d at 715.

440. 486 F. Supp. 332 (D.D.C.), *rev'd in part*, 642 F.2d 589 (D.C. Cir. 1980).

441. *Id.* at 340.

442. *Id.* at 353. The bowhead whale is a filter feeder whose plates could be contaminated with even small amounts of oil, leading to unsuccessful feeding. One problem inherent in the attempt to assess the impact that the lease sale could have on the whales was the inability to predict the extent of petroleum pollution that would accompany lease activities. *Id.*

443. *Id.*

444. *Id.* at 354.

445. *Id.* "While a biological opinion can be based on inadequate information, in such cases the obligation to consult continues. Since there is no biological opinion in the instant case, much less an opinion based on adequate data, the consultation process has not ended." *Id.*

446. *Id.* at 352.

447. *Id.* at 355.

448. *North Slope Borough v. Andrus*, 642 F.2d 589 (D.C. Cir. 1980).

449. *Id.* at 607.

opinion, primarily because it purported to be.<sup>450</sup> The letter was deemed adequate in the circumstances because it alerted the Secretary to the dangers, and its mitigation suggestions were adopted as lease stipulations.<sup>451</sup> The main ground for allowing the lease sale to proceed was the stage-by-stage segmentation of environmental evaluation of offshore leasing.<sup>452</sup> The sale of leases itself would harm no whales, and the Secretary could later take whatever measures were necessary to avoid or mitigate damage to the endangered wildlife.<sup>453</sup> The court emphasized that the lessees proceeded at their own risk.<sup>454</sup> Their investment is subject to continuing administrative control and, should the danger to the bowhead become insurmountable, to total loss.<sup>455</sup> A federal court in California subsequently adopted a similar rationale in litigation over lease sales in the Santa Maria Basin.<sup>456</sup>

The cases in combination hold that an agency can continue to implement a phased project so long as it is not irrevocably committed to it when its impact on an endangered species is in doubt. While this interpretation involves a close question of degree, it arguably contravenes the congressional intent to prevent "steamrolling" of projects. Prior non-ESA cases had established that the offshore leasing process may be segmented for environmental analysis,<sup>457</sup> but it is questionable whether, as a practical matter, lease operations that are underway may later be stopped in their tracks.<sup>458</sup>

Two subsequent cases involved section 7 and land use, but neither is very illuminating. In *Romero-Barcelo v. Brown*,<sup>459</sup> the Commonwealth of Puerto Rico sought an injunction against training operations at a United States Navy base on the ground, among many others, that the operations were jeopardizing or disturbing one or more of the six endangered and threatened species found in the vicinity.<sup>460</sup> The district court was persuaded that the Navy was more a help than a hindrance to the wildlife because military ownership and use in effect created a sanctuary from which all other human activities were barred.<sup>461</sup> The appellate court vacated and remanded.<sup>462</sup> It held that the district court's findings were not a proper substitute for an official biological opin-

450. *Id.* at 608-10.

451. *Id.*

452. *Id.* at 607-09.

453. *See id.* at 608-09 (adopting analysis of *Conservation Law Foundation* that Secretary has continuing obligation to assure compliance with ESA).

454. *Id.* at 611.

455. *See id.* at 608-09, 611 (Secretary retains strict control of project until completion; lessees prepared for risk of losing resources).

456. *California v. Watt*, 520 F. Supp. 1359 (C.D. Cal. 1981), *aff'd*, 683 F.2d 1253 (9th Cir. 1982).

457. *See County of Suffolk v. Secretary of the Interior*, 562 F.2d 1368, 1377 (2d Cir. 1977) (project must be broken down into stages with separate EIS and evaluation by Secretary at each phase), *cert. denied*, 434 U.S. 1064 (1978).

458. According to the court in *Union Oil Co. v. Morton*, 512 F.2d 743, 750-52 (9th Cir. 1975), the benefits of an offshore lease cannot be denied indefinitely because of subsequent reasons without effecting an unconstitutional taking. In any event, the reports are barren of cases in which a lessee was permanently deprived of leased oil for such reasons.

459. 478 F. Supp. 646 (D.P.R. 1979), *aff'd in part, vacated in part, and remanded in part*, 643 F.2d 835 (1st Cir. 1981), *rev'd on other grounds sub nom. Weinberger v. Romero-Barcelo*, 102 S. Ct. 1798 (1982).

460. 478 F. Supp. at 651, 688-89.

461. *Id.* at 689.

462. *Romero-Barcelo v. Brown*, 643 F.2d 835, 863 (1st Cir. 1981), *rev'd on other grounds sub nom. Weinberger v. Romero-Barcelo*, 102 S. Ct. 1798 (1982).

ion pursuant to section 7(a)(2)<sup>463</sup> and remanded both the section 7 and section 9 claims for further proceedings.<sup>464</sup>

The District of Columbia district court in *Cabinet Mountains Wilderness v. Peterson*<sup>465</sup> seemingly retreated from *Hill* by accepting a conclusory biological opinion without further inquiry.<sup>466</sup> Plaintiffs challenged the approval by the Forest Service of private mineral exploration in a wilderness area because the prospecting and extraction allegedly jeopardized a pocket of grizzly bears, a threatened species.<sup>467</sup> The agency apparently did not know whether grizzlies actually lived in the area or whether the mineral operations would adversely affect them. The court took the biological opinion, which laid down some conditions and recited a lack of significant impact, at face value, and dismissed the suit.<sup>468</sup> It held that only the arbitrary and capricious standard of review should be applied, that exploration is only a preliminary step, and that plaintiffs had not met their burden.<sup>469</sup> The latter holding disregarded the statutory language requiring the agency, not the plaintiff, to "insure" against jeopardy.<sup>470</sup> In the end, the court proclaimed that it would not speculate on whether there were any bears in the area and whether they would be scared away by drilling operations.<sup>471</sup> The lack of information in the opinion precludes evaluation of the court's substantive holding, but its comments on review standards and the judicial role indicate that the decision could be vulnerable on appeal.<sup>472</sup>

## 2. The Review Board

After the agency has completed the expanded consultation procedure and an immediate, unavoidable conflict has been identified, the agency, the governor of the state in which the proposed action will occur or the permit or license applicant may request an exemption.<sup>473</sup> The application must be submitted in writing to the Secretary of the Interior within ninety days of the completion of the consultation process<sup>474</sup> and must describe the consultation process and the reasons the action cannot be modified to avoid species jeopardy or habitat degradation.<sup>475</sup> The exemption application cannot be filed until the consulta-

463. 643 F.Supp. at 857.

464. *Id.* at 856-57.

465. 510 F. Supp. 1186 (D.D.C. 1981).

466. *Id.* at 1189-90.

467. *Id.* at 1187.

468. *Id.* at 1191.

469. *Id.* at 1189-91.

470. *See supra* note 310 (discussing Act's placement on agency of burden of demonstrating agency action will not have impermissible consequences).

471. *Id.* at 1191.

472. In August 1982 the District of Columbia Court of Appeals affirmed, 17 ENV'T REP. CAS. (BNA) 1844 (D.C. Cir. 1982).

473. 16 U.S.C. § 1536(g)(1) (Supp. IV 1980). The wording of § 1536(g)(5)(B) makes it clear that the consultation process is a mandatory prerequisite for application for an exemption. *Id.* § 1536(g)(5)(B).

Any project granted exemption from the provisions of § 7 also receives exemption from §§ 9(a) and 4(d). *Id.* § 1536(o).

474. *Id.* § 1536(g)(2)(A). In the case of an agency action involving a permit or license applicant, the application must be submitted not later than 90 days after the date the agency concerned takes final agency action. *Id.*

475. *Id.* § 1536(f). Pursuant to this section the Secretary is required to promulgate regulations that specify the form and manner in which applications shall be submitted and the information that must be

tion is completed<sup>476</sup> and the license denial is final.<sup>477</sup>

After the Secretary receives an application for exemption, he must request from the governor of each state affected by the proposed action nominations of individuals to serve on the review board and the Endangered Species Committee, the bodies forming the two tiers of the exemption process.<sup>478</sup> A three-person review board then is established to consider the particular exemption.<sup>479</sup> Within sixty days of receipt, the Secretary submits to the review board the exemption application and a written statement of his views and recommendation on the project.<sup>480</sup>

The review board is only a device to screen out bad faith applications and to focus the controversy. Congress empowered it to compile a record, to delineate alternatives, and to summarize evidence obtained in hearings.<sup>481</sup> Although the board reviews the entire prior consultation process, its decision is limited to the threshold determinations of whether an irresolvable conflict exists and whether the applicant has lived up to the requirements of the consultation process.<sup>482</sup> If the board determines that the conflict is not irresolvable or that the agency has not demonstrated good faith in attempting to resolve the conflict or to accomplish the purposes of the project by alternatives, the exemption process is foreclosed.<sup>483</sup> Judicial review is available at this point.<sup>484</sup> Positive findings on the threshold questions will not be considered final agency action because Congress confided the substantive decision to the full Endangered Species Committee (ESC).<sup>485</sup>

Once the conflict and good faith thresholds are crossed, the review board must prepare a report for the ESC containing the written recommendations of the Secretary, the results of the board's own adjudicatory hearings,<sup>486</sup> and the opinions of other federal agencies on whether the action is in the public interest and is of national or regional significance.<sup>487</sup> The board's report also should discuss the availability and benefits of reasonable and prudent alternatives to the proposed action,<sup>488</sup> but it cannot recommend any particular disposition on the merits of the application.<sup>489</sup> Finally, the board must discuss

presented. The Secretary may require information beyond a description of the consultation process and an explanation for impossibility of modification. *Id.*

476. *See id.* § 1536(g)(5)(B)(i) (requiring review board to determine whether applicant has carried out consultation responsibilities).

477. *Id.* § 1536(h)(1); *Pittston Co. v. Endangered Species Comm.*, 14 Env't Rep. Cas. (BNA) 1257, 1263 (D.D.C. 1980).

478. 16 U.S.C. § 1536(g)(2)(B) (Supp. IV 1980).

479. *Id.* § 1536(g)(3)(A).

480. *Id.* § 1536(g)(4).

481. *Id.* § 1536(g)(5)-(7). The Senate bill did not contain the review board step of the exemption process; it was adopted from the House version. H.R. REP. NO. 1625, 95th Cong., 2d Sess. 21-23, 46-48 (1978). The board is to serve in a capacity similar to an administrative hearing examiner who makes recommendations to a federal agency under the Administrative Procedure Act. *Id.* at 14.

482. 16 U.S.C. § 1536(g)(5)-(6) (Supp. IV 1980).

483. *Id.* § 1536(g)(5).

484. *Id.* (negative board determination is final agency action subject to review under Administrative Procedure Act).

485. *Id.* § 1536(g)(6).

486. *Id.* § 1536(g)(7).

487. *Id.* § 1536(g)(7)(B), (g)(8).

488. *Id.* § 1536(g)(7)(A).

489. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 21 (1978).

appropriate mitigation and enhancement measures that the Committee should consider as possible conditions to a grant of exemption.<sup>490</sup>

The board is primarily a factfinder and summarizer, but its determination of the relative benefits involves the exercise of judgment. It has the opportunity to provide creative approaches in its discussion of mitigation and enhancement measures. The scope of the review board's consideration is clearly broader than that of the Secretary in the original consultation process: the alternatives it may consider are not limited to those within the power of the Secretary or the agency proposing the action.<sup>491</sup>

### 3. The Endangered Species Committee

The 1978 Amendments gave a cabinet-level group denominated the Endangered Species Committee<sup>492</sup> the final decision<sup>493</sup> on whether the project or the species will survive. Congress empowered the ESC to hold hearings, but the legislative history to the amendments suggests that the Committee should not duplicate the function of the review board in gathering data relevant to the project or to the availability of reasonable alternatives or mitigation measures.<sup>494</sup>

The Committee must grant or deny an exemption within ninety days of receipt of the review board's report.<sup>495</sup> To grant an exemption, the ESC must determine by a vote of not fewer than five<sup>496</sup> of its seven members that (1) there are no reasonable and prudent alternatives to the action; (2) the benefits of the

490. 16 U.S.C. § 1536(g)(7)(C) (Supp. IV 1980).

491. *See id.* § 1536(g)(7)(A) (requiring board to report on availability of reasonable alternatives). The Conference Report recommended that the scope of the alternatives considered should be broader at the review board level than the consideration of alternatives during consultation. Section 7 consultation is intended to focus on the agency action which gave rise to the problem initially and on means of solving the problem in a way that is clearly within the jurisdiction and expertise of the consulting parties. In contrast, the review board and the Endangered Species Committee should focus on a wider variety of alternatives. The Conference Committee did not intend that the review board should consider only alternatives that are both technically capable of being constructed and prudent to implement. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 20-21 (1978); *see Rosenberg, supra* note 145, at 545-49.

492. The Committee is composed of the Secretaries of Agriculture, Defense and Interior; the Chairman of the Council of Economic Advisors; the Administrators of the Environmental Protection Agency and the National Oceanic and Atmospheric Administration; and an appointee of the President from each affected state. 16 U.S.C. § 1536(e)(3) (Supp. IV 1980). Unlike that of the review board, the composition of the Committee does not vary with each application, with the exception of the presidential appointees. The President makes the latter appointments pursuant to the recommendations of the governor of each affected state. 16 U.S.C. § 1536(g)(2)(B) (Supp. IV 1980). If there is more than one appointee, presumably they constitute one member and cast one vote collectively.

493. Although Congress can override the Committee's decision as it did in *TVA v. Hill*, the decision of the Committee is final in that it completes the procedure provided by the statute. The decision also is subject to judicial review. 16 U.S.C. § 1536(n) (Supp. IV 1980). Congress rejected an amendment that would have made congressional review routine when extinction of a species would be a likely result of a decision by the Committee. 124 CONG. REC. 38,127 (1978) (remarks of Rep. Jeffords).

494. The Endangered Species Committee should seldom hold a second adjudicatory hearing. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 20 (1978). Nevertheless, Congress empowered the Committee to receive additional evidence and testimony, 16 U.S.C. § 1536(e)(7)(A) (Supp. IV 1980), and to issue subpoenas. *Id.* § 1536(e)(9). The subpoena power should be exercised with restraint. S. REP. NO. 874, 95th Cong., 2d Sess. 8 (1978). Finally, the Committee may promulgate rules, regulations, and procedures, and issue orders in furtherance of its duties. 16 U.S.C. § 1536(e)(8) (Supp. IV 1980).

495. 16 U.S.C. § 1536(h)(1) (Supp. IV 1980).

496. *Id.* § 1536(h)(1). The Senate, at the request of Senator Scott, changed the quorum requirement from seven to five members to prevent frustration of the operation of the Committee. 124 CONG. REC. 21,580 (1978).



action clearly outweigh the benefits of alternative courses of action that are consistent with the ESA; (3) the agency action is in the public interest; and (4) the action is of regional or national significance.<sup>497</sup> In addition, the Committee must establish reasonable mitigation and enhancement measures to minimize the adverse effects of the agency action.<sup>498</sup>

*Reasonable and Prudent Alternatives.* Congress rejected the original amendment language of "feasible and prudent" for the "reasonable and prudent" language of the Senate version because the latter allowed the Endangered Species Committee "to consider a wide range of factors" and gave the Committee more "flexibility in reviewing irresolvable conflicts."<sup>499</sup> The Committee thus may consider factors such as community impacts and economic feasibility as well as engineering feasibility of alternatives under consideration.<sup>500</sup> The percentage of project completion may be considered under this rule of reason. Congress intended that the range of alternatives considered by both the review board and the Committee should be wider than that specified in the section 7(a) consultation process.<sup>501</sup>

*Benefits.* The second determination that the Committee must make before granting an exemption involves balancing the benefits of the proposed action against the benefits of alternative courses consistent with conserving the species.<sup>502</sup> To underscore the exceptional nature of the novel exemption process, the statute requires that the benefits of the proposed action "clearly out-

497. 16 U.S.C. § 1536(h)(1)(A) (Supp. IV 1980).

498. *Id.* § 1536(h)(1)(B).

499. 124 CONG. REC. 21,590-91 (1978) (remarks of Sen. Baker). *Cf.* Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 411 (1971) (interpreting "feasible and prudent"), *quoted in* 124 CONG. REC. 21,590 (1978) (remarks of Sen. Baker).

500. 124 CONG. REC. 21,590 (1978) (remarks of Sen. Baker).

501. *Id.* at 21,590-91.

502. The scope of the benefits to be considered is broad:

[T]he second criteria [*sic*] considered by the committee involves an evaluation of the benefits of the agency action and an evaluation of the benefits associated with alternatives which would avoid an adverse impact on the species or its habitat.

In the context of this provision, the committee intends that the term "benefits" shall include, but not be limited to, ecological and economic considerations. Among the economic criteria which may be examined and considered by the Endangered Species Committee are those set forth in OMB Circular A-107 and in Executive Order 11,949. These include:

- (1) the cost impact on consumers, business markets, Federal, State, and local governments;
- (2) the effect on productivity of wage earners, businesses and government;
- (3) the effect on competition;
- (4) the effect on supplies of important materials, products, and services;
- (5) the effect on employment; and
- (6) the effect on energy supply and demand.

The committee does not intend, however, that the Endangered Species Committee evaluation should be limited to these criteria. They should also consider the national interest, including actions authorized, funded or carried out by the Secretary of Defense; the esthetic, ecological, educational, historical, recreational and scientific value of any endangered or threatened species; and any other factors deemed relevant.

H.R. REP. NO. 1804, 95th Cong., 2d Sess. 1 (1978).

weigh" the benefits of alternatives.<sup>503</sup> This standard presents conceptual difficulty when read together with the first criterion because, when the Committee makes the second determination, it already has determined that no reasonable and prudent alternatives to the project exist. Does the statute require that the Committee spend time balancing the benefits of alternatives that are unreasonable and imprudent albeit consistent with the purpose of conserving the species?<sup>504</sup> Or is it now limited to the choice between the project as proposed or no project at all? Despite the balancing language, the reports of both Houses and of the Conference Committee make clear that the ESC is not to balance the value of the species against the value of the proposed action.<sup>505</sup> Nevertheless, the inescapable reality of the exemption process is a choice between these two values. The "clearly outweigh" language creates a strong presumption in favor of the endangered wildlife.

*Public Interest.* To decide that the project is "in the public interest," the Committee must find that such action will "affect some interest, right or duty of the community at large in a way which they would perceive as positive."<sup>506</sup> As the community at large probably would be sharply divided over the positive qualities of a project that would harm or exterminate a species, the public interest standard is less than definitive. If construed to require something like local unanimity, no project is likely to meet it. Although "public interest" is an amorphous criterion and affords little basis for judicial review, Congress obviously intended that it limit ESC discretion in some fashion. Even in cases of expensive government boondoggles and ventures for purely private profit, however, some public interest argument always will be available.<sup>507</sup>

*Significance.* The fourth determination necessary to sustain an exemption is a finding that the project is of regional or national significance. As indicated in the House and Conference Committee reports, Congress intended "regional significance" to be a broad standard involving other factors than a mere finding that the project affects more than one state.<sup>508</sup> The Committee may consider the nature of the project as well as its geographical scope.<sup>509</sup> This standard appears to be a tighter, and thus more reviewable,<sup>510</sup> limitation

503. 16 U.S.C. § 1536(h)(1)(A)(ii) (Supp. IV 1980).

504. The Conference Report merely reiterates that benefits to be considered include national interest, esthetic, educational, historical, recreational, scientific value, and any other relevant factors as well as ecological and economic benefits. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 1 (1978).

505. H.R. REP. NO. 1625, 95th Cong., 2d Sess. 22-23 (1978); H.R. REP. NO. 1804, 95th Cong., 2d Sess. 1 (1978); S. REP. NO. 874, 95th Cong., 2d Sess. 7 (1978).

506. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 1 (1978).

507. The Tellico Dam itself may be an example of an expensive government boondoggle that had been justified in the planning phase by cost benefit analysis. Even TVA Chairman S. David Freeman later questioned the value of the dam, given the damage that could result from flooding the land. Note, Tennessee Valley Authority v. Hill: *Protection of Endangered Species Under Section 7 of the Endangered Species Act of 1973*, 18 NAT. RESOURCES J. 913, 922 n.41 (1978).

508. The House debates indicate that a project could affect only a single state and yet be of regional significance. 124 CONG. REC. 38,126 (1978) (remarks of Rep. Bowen).

509. H.R. REP. NO. 1804, 95th Cong., 2d Sess. 1 (1978). The Conference Committee indicated that action affecting the Port of Sacramento, California, would be an example of a project of regional significance. *Id.*

510. At least in obvious cases, "regional significance" is the "law to apply" in review of the administrative decision. See *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 413 (1971) (exemp-

on the Committee's discretion than public interest. Simply as a factual matter it will be very difficult to conclude that a shopping center or a suburb or a manufacturing plant (or even another TVA dam in a heavily dammed region) is of more than local or statewide significance.

Taken together, these criteria make up a complex formula for deciding whether to grant or deny an exemption. But the complexity masks inherent vagueness and indecision. With such broad and conceptually cumbersome standards, Committee members may be encouraged to predicate their votes on the outcome desired rather than on the discrete factors. Moreover, a court called upon to review any decision based on this mire of considerations may have no recourse but to affirm the Committee holding since it would be difficult to find a basis for holding that the decision was clearly arbitrary.<sup>511</sup>

Nevertheless, the combination of factors demonstrates that Congress did not intend the ESC to be a rubber stamp for economic land use development. The statutory balance is clearly weighted on the side of endangered species; they are still entitled to the benefit of the doubt. Developers bear a heavy burden in showing that on the national priority list their proposal is higher than the continued existence of a species. In this public interest balancing, very few projects are in fact of such national or regional importance that their continuance should outweigh a unique form of life.

In addition to determining that the criteria discussed above are met, the Committee is charged with prescribing "reasonable mitigation and enhancement measures" to minimize the adverse impact of the exempted project on the species or habitat.<sup>512</sup> Insofar as "enhancement" differs from "mitigation," the former buttresses the affirmative conservation duty.<sup>513</sup> The costs of these measures are to be borne by the agency as project costs,<sup>514</sup> but they are to be excluded from the computation of the benefits and costs of the project.<sup>515</sup> This curious provision seems to insure that agency guidelines or NEPA will not preclude a project even though its real cost, including the cost of measures necessary to mitigate species damage, exceeds its worth.<sup>516</sup>

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tion for action "committed to agency discretion" inapplicable when there is "law to apply"). An exemption for a purely local project, for example, could be seen as arbitrary and capricious under this test. "National or regional significance" is nevertheless a flexible standard with much room for creativity in argument and administrative construction.

511. Any person (defined in 16 U.S.C. § 1532(13) (Supp. IV 1980)) may invoke review of the Committee's decision by filing within 90 days of the issuance of the ESC's determination a petition in either the court of appeals for the circuit where the agency action will be carried out or, if the action will be carried out outside of any circuit, in the Court of Appeals for the District of Columbia Circuit. 16 U.S.C. § 1536(n) (Supp. IV 1980).

512. 16 U.S.C. § 1536(h)(1)(B) (Supp. IV 1980).

513. See *supra* notes 312-23 and accompanying text (discussing federal agencies' affirmative duty to conserve).

514. 16 U.S.C. § 1536(l)(2) (Supp. IV 1980).

515. *Id.*

516. Flood control projects must have a benefit-cost ratio greater than unity, Flood Control Act 33 U.S.C. § 701a (1976), but all other major projects are subject to the less mathematical balancing required by NEPA. See *County of Suffolk v. Secretary of the Interior*, 562 F.2d 1368, 1384 (2d Cir. 1977) (NEPA requires broadly defined cost-benefit analysis of major federal activities), *cert. denied*, 434 U.S. 1064 (1978). If, therefore, costs of project redesign to avoid harm to endangered species lowered the flood control project benefit-cost ratio below unity or showed a lack of justification under NEPA, those costs seemingly could be ignored.

#### 4. Other Substantive Constraints on ESC Discretion

Other provisions in the 1978 amendments to section 7 can dictate the result reached by the Endangered Species Committee. Notwithstanding any other criterion, an exemption must be granted if the Secretary of Defense finds it necessary for "national security."<sup>517</sup> Such a broad and ill-defined standard, subject to little judicial oversight, could easily lend itself to abuse, as it has in the past.<sup>518</sup> The Defense Secretary may properly use this authority in connection with massive weapons systems such as the MX missile transportation system proposed for Nevada and Utah.<sup>519</sup> Whether the Secretary will choose to exempt lower level projects and activities will depend on his definition of national security, which could embrace refineries, pipelines, transmission lines, airfields, shipyards, and so forth.<sup>520</sup>

The Defense Secretary's authority, however, is not exempt from judicial review. Challengers have two avenues of appeal. First, because the amendment directs the Secretary to "find" (rather than using words such as "determine in his judgment" or other words implying informal discretion) the national security necessity, the factual bases on which the finding rests should be open to review. Assume, for fanciful example, that water pollution discharge from a naval installation destroyed the habitat amenities of an endangered species. If the Defense Secretary decided that the pollution was necessary to the national security, a court should be able to reverse the decision as arbitrary, unsupported, and perhaps unlawful. Second, the meaning and application of "national security" ultimately must be a matter of judicial interpretation, at least in instances beyond the normal scope of the term. The Secretary could argue, for instance, that yet another TVA dam is necessary for national security because it enhances the local economy, which contributes to national prosperity, which means more tax receipts, which make more money available to the Defense Department, which provides national security. One must fervently hope that courts will not abdicate their responsibility to throw out that or similar arguments. Even with judicial review, however, this mandatory exemption does remove the major defense installations from the reach of the Endangered Species Act, at least at the ESC level.<sup>521</sup>

The Supreme Court recently accepted a national security defense in a case peripherally involving endangered species protection. In *Weinberger v. Catholic Action*,<sup>522</sup> the Navy's environmental impact assessment of a weapons storage facility located within 750 feet of the endangered Hawaiian still's habitat did not discuss possible effects of nuclear weapons storage at the facility. In

517. 16 U.S.C. § 1536(j) (Supp. IV 1980).

518. Readers with short memories should be reminded of the role played by asserted national security considerations in the Watergate imbroglio.

519. Although an exemption for a weapons system deemed vital to national defense appears well within the statute, it is less likely that all details of implementation are similarly exempt. See *infra* notes 620-24 and accompanying text (discussing scope of national security exemption under ESA).

520. Cf. *Catholic Action of Hawaii v. Brown*, 643 F.2d 569 (9th Cir. 1980) (prohibition of disclosure of information on nuclear weapons storage does not preclude EIS on particular storage site known to public as possible storage site), *rev'd sub nom.* *Weinberger v. Catholic Action*, 102 S. Ct. 197 (1981).

521. The statute also provides summary exemption for replacement of a public facility in an area declared a major disaster area by the President. 16 U.S.C. § 1536(p) (Supp. IV 1980).

522. 102 S. Ct. 197 (1981).

denying plaintiff's motion to enjoin permanently use of the facility for nuclear weapons storage, the district court ruled that national security interests protected the refusal to disclose whether nuclear weapons would be stored, and it accepted defendant's conclusion that the Hawaiian stilt would not be affected.<sup>523</sup> The Ninth Circuit reversed, holding that an impact statement could assess generally and hypothetically the impact of nuclear weapons storage without violating security requirements.<sup>524</sup> The court remanded the ESA claim for further consideration in light of the EIS to be prepared by the Navy.<sup>525</sup> The Supreme Court reversed the circuit court with instructions to dismiss the suit, holding that nuclear weapons storage was a matter of national security and that NEPA does not require hypothetical assessments.<sup>526</sup> No court interpreted the statutory exemption provision of the ESA because no exemption application had been filed, and the Supreme Court ignored the possible endangered species problem.

Another provision of uncertain origin restricts the exemption process to an undetermined extent by introducing, perhaps unwittingly, a set of different, complex, and conflicting criteria. Section 7(i) flatly forbids the ESC from considering an exemption if the Secretary of State certifies in writing that an exemption "would be in violation of an international treaty obligation or other international obligation of the United States."<sup>527</sup> Assuming (perhaps without good reason) that the Secretary of State will use this certification authority,<sup>528</sup> a Pandora's box of treaty interpretation will be opened. The wildlife-related treaties to which the United States is a signatory comprise over twelve hundred pages.<sup>529</sup> They are filled with obscure provisions that have never been interpreted or applied. Some are general, providing only that the United States has committed itself to species preservation<sup>530</sup> and habitat protection.<sup>531</sup> Some are more specific, requiring that the habitat of certain migratory birds is to be protected from development and pollution.<sup>532</sup> Sorting out all of the possibilities inherent in the frequently vague language would require a small army of lawyer-diplomats and will not be undertaken here. Suffice it to say that this provision is a sleeper that gives the State Department enormous potential power over the exemption process. Capricious use of the power should be

523. *Catholic Action v. Brown*, 468 F. Supp. 190, 193 (D. Hawaii 1979), *rev'd*, 643 F.2d 569 (9th Cir. 1980), *rev'd sub nom. Weinberger v. Catholic Action*, 102 S. Ct. 197 (1981).

524. 643 F.2d at 572.

525. *Id.*

526. 102 S. Ct. at 203.

527. 16 U.S.C. § 1536(i) (Supp. IV 1980).

528. The State Department has been loath to advocate increased wildlife protection if international friction might ensue. See S. REP. NO. 863, 92d Cong., 2d Sess. 41-44 (1972) (letter from Mr. David M. Abshire, Asst. Sec. of State, to Sen. Magnuson expressing opposition to bill to protect ocean mammals because other national and international means were appropriate and bill might require violation of U.S. treaty obligations).

529. CONGRESSIONAL RESEARCH SERVICE, TREATIES AND OTHER INTERNATIONAL AGREEMENTS ON FISHERIES, OCEANOGRAPHIC RESOURCES, AND WILDLIFE INVOLVING THE UNITED STATES (1977) (Senate Comm. on Commerce, Science, and Transp. Print).

530. Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 277 U.S.T. 1087, T.I.A.S. No. 8249.

531. Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, Oct. 12, 1940, 56 Stat. 1354 (1942), T.S. No. 981.

532. Convention on Protection of Migratory Birds in Danger of Extinction, and Their Environment, March 4, 1972, United States-Japan, 25 U.S.T. 3329, T.I.A.S. No. 7990.

subject to judicial oversight because the question whether a treaty has been violated, however much tinged with political considerations, is in essence a legal one.<sup>533</sup>

## 5. Finality: The Secretarial Veto and Judicial Review

Once a project has been exempted from compliance with section 7, the discovery of additional endangered species that will be jeopardized by the project does not necessitate further consideration of the project.<sup>534</sup> An exemption granted by the Committee is deemed permanent unless the Secretary finds that the agency action will result in extinction of the newfound species, in which case he must veto the exemption.<sup>535</sup> The Committee can override this determination notwithstanding the Secretary's finding.<sup>536</sup> Neither an additional ESC determination nor a greater majority is required to override the Secretary's veto. The provision seems aimed only at insuring that the Committee is aware that extinction of the species is the probable effect of its decision. Thus a project may go forward even in the face of clear evidence that a species will be extirpated by the action.<sup>537</sup>

The Act provides for judicial review of the Endangered Species Committee's decision upon the filing of a petition by any person within ninety days thereafter.<sup>538</sup> The court charged with reviewing the ESC's decision will face a task far more difficult than the ordinary review of agency actions. Standards of review are not specified in the Act. Review, therefore, will proceed under the general standards of the Administrative Procedure Act,<sup>539</sup> which in effect means that the reviewing court can look as deeply into the decision as it chooses.<sup>540</sup> Whether the substantial evidence test will apply to all or any part of the proceeding is questionable, but it likely will make little difference.<sup>541</sup> More crucial will be whether the court chooses to interpret independently the broad standards that control the Committee's discretion.<sup>542</sup> In the end, an ESC determination probably will be reversed only if the court is convinced

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533. See *Fund for Animals v. Frizzell*, 402 F. Supp. 35 (D.D.C.), *aff'd*, 530 F.2d 982 (D.C. Cir. 1976), in which the lower court was unsure whether plaintiff had standing to assert convention violations, but went on to hold that no violations occurred. *Id.* at 38.

534. 16 U.S.C. § 1536(h)(2)(A) (Supp. IV 1980). Representative Beard suggested the amendment to H.R. 14,104 that added the "permanent exemption" language, stating that its purpose is to ensure that an exempted project would not be affected by addition of new species to the endangered or threatened lists, or later discovery of listed species in the project area. 124 CONG. REC. 38,139 (1978) (remarks of Rep. Beard).

535. 16 U.S.C. § 1536(h)(2)(B)(i) (Supp. IV 1980).

536. *Id.* § 1536(h)(2)(B)(ii).

537. *Id.* § 1536(h)(l).

538. *Id.* § 1536(n).

539. 5 U.S.C. §§ 701-706 (1976).

540. See *Rodgers, A Hard Look at Vermont Yankee: Environmental Law Under Close Scrutiny*, 67 *Geo. L.J.* 699, 712-18 (1979) (Supreme Court made clear in *Vermont Yankee* that courts should apply more than APA minimum procedure only in compelling circumstances).

541. The "substantial evidence" test applies only in review of adjudicatory hearings. 5 U.S.C. § 706 (1976). Regardless of whether the exemption process is deemed "adjudicatory," the so-called test does not add much to judicial review.

542. See *Rodgers, supra* note 540, at 712-18 (discussing judicial imposition of procedures beyond statutory minima of APA). A court should do so because the ESC is neither expert in wildlife matters nor charged with general interpretation and implementation of the statutes.

that it is so unreasonable as to be arbitrary and capricious.<sup>543</sup>

## 6. Summary

The state of post-1978 endangered species law can be summarized as follows:

a. The four major duties created by section 7 are intact: whenever a federal action will affect a listed species, the action agency must consult with FWS and insure that the action will neither jeopardize the species nor destroy or adversely modify its critical habitat. In addition, each agency has an undefined duty to use its authority affirmatively for endangered species conservation.

b. If, after considering alternatives, FWS consultation ends in an impasse, the action agency must refrain from committing unrecoverable resources to the project, and the only recourse is to the Endangered Species Committee.

c. The ESC can exempt the project or activity, but only after certain procedures have been completed and relatively stringent criteria satisfied. The Secretaries of Defense and State and the President can dictate the result in some limited circumstances.

d. The prohibition against "taking" endangered species overshadows the exemption procedure. Left unchanged by Congress, it poses conceptual and practical constraints on land users as significant as those inherent in section 7.

e. The ESA cannot be viewed in isolation. It is just a part—albeit a crucial part—of the overall statutory system for enhanced environmental quality.

Only actual experience will tell how well the "God Committee" mechanism will achieve the reconciliation of the conflicting values that Congress entrusted to its determination. The supplementation of a simple substantive command, expressed in a paragraph, with another seven pages of detailed procedures for overriding that command, has created several more bureaucracies and the likelihood of delay and confusion. These results are inevitable because the political branch was unable to make an either/or decision and, instead, delegated the problem to another body. This buck-passing is not a complete retreat from endangered species protection. Congress in 1973 did not foresee all of the potential problems that could arise in the application of the ESA. Nevertheless, in 1978 it rejected all attempts to repeal the ESA's central substantive protective provisions and directed that its new, awkward safety valve be used only in exceptional circumstances. Given the impassioned oratory in the wake of *Hill*, the reenactment of original sections 7 and 9—and the explicit validation of their drastic land use constraints—is more significant than the new procedures.

The limited performance of the Endangered Species Committee to date also confirms that the exemption process does not amount to an open season on species in the path of human projects and activities. Congress directed in the 1978 Amendments that the Committee decide the fate of the Tellico Dam and of the Grayrocks Project within ninety days of enactment.<sup>544</sup> As to the latter,

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543. This follows from the lack of stringency in the standards applicable. *See supra* notes 499-510 and accompanying text (discussing standards for ESC exemption). An ESC decision also could be overturned for "illegality" if it gave no credence to the standard that other benefits must "clearly outweigh" detriments to the species.

544. 16 U.S.C. § 1539(f) (Supp. IV 1980).

the Committee accepted a settlement between the parties by which the project sponsors agreed to pay an additional thirteen million dollars to avoid any adverse effects on whooping crane stopover habitat.<sup>545</sup> The Committee unanimously rejected the exemption application for Tellico.<sup>546</sup> Influenced by the inadequate cost justification for Tellico—one Committee member termed it “ill conceived and uneconomical”<sup>547</sup>—the Committee found that the statutory criteria had not been met. Reasonable and prudent options existed, and the benefits of Tellico did not clearly outweigh the benefits of alternative solutions.<sup>548</sup> If the Committee follows this precedent in future disputes, the applicant will have the burden of demonstrating that its proposal is not only significant, in the public interest, and clearly more beneficial than any alternative, but also that it is well planned and economically justifiable. Given the broad criteria, the party with the burdens of proof and persuasion will lose in all but the truly exceptional cases.

#### IV. ENDANGERED SPECIES AND FUTURE LAND USE DILEMMAS

*[W]e think it is time to come to grips with the negative impact of this Act on man. In addition to the Act's adverse effects on the use of federally-owned lands, its potential for infringing upon private property rights is frightening. If a threatened or endangered species has a critical habitat on private land, the private landowner could be prevented from enjoying his constitutional right to full use of his land.*

Hearings on H.R. 10,883, S. No. 95-39, 95th Cong., 2d Sess. 48 (1978) (joint statement of the National Cattlemen's Ass'n, Public Lands Council, and National Woolgrowers Ass'n).

The 1978 amendments created a complex, if not tortuous, process for balancing the continued existence of wildlife species with other societal goals. Before an exemption may be sought, the applicant must run an obstacle course of studies, consultation, evaluation, and other procedures. The Endangered Species Committee is the court of penultimate resort. After the ESC grants or denies an exemption, the parties can still seek relief from courts and Congress.<sup>549</sup> The game may well be worth less than the candle for all but the largest and most important projects. The presence of an endangered species

545. Endangered Species Committee, Dep't of Interior, Application for Exemption for Grayrocks Dam & Reservoir (1979) (available upon request from the Department of Interior).

546. Endangered Species Committee, Dep't of Interior, Application for Exemption for Tellico Dam & Reservoir Project (1979) [available upon request from the Department of Interior].

547. *Id.* at 3.

548. *Id.*

549. After the Endangered Species Committee denied an exemption for Tellico, proponents sought special legislative relief, claiming that the Committee's annual benefit/cost ratio was inaccurate. 125 CONG. REC. S12,278 (daily ed. Sept. 10, 1979). Relief was denied several times in 1979. Supporters of the dam finally secured an exemption by appending the Tellico provision to the Energy and Water Development Appropriations Act of 1980, Pub. L. No. 97-99, 93 Stat. 437 (1979). Rosenberg, *supra* note 145, at 521-24; Goplerud, *supra* note 28, at 506-07.



probably will spell the doom of a run-of-the-mill proposal, a result that Congress contemplated and approved.

Even after the amendments, endangered species still are accorded the highest legal priority of any facet of the natural environment ever dealt with by the federal legislature. In most wildlife management matters, and in most administrative decisionmaking generally, the expert agency is expected to identify, juggle, and balance the many factors and interests at issue in order to reach a decision that accommodates most and gives proper weight to all.<sup>550</sup> But when one of those factors is an adverse impact on an endangered species, the methods and the equation change drastically: the discretion of the action agency is suddenly confined to one legal result, and only a resort to higher bodies can change it.

Reaching the result mandated by law does not occur automatically, however, because government agencies have human tendencies that must first be overcome. The action agency must abjure the temptation to conceal the presence of an endangered species in the vicinity, and it must enter into the consultation process in good faith.<sup>551</sup> The Fish and Wildlife Service must resist the bureaucratic desire to avoid entanglement in violent political controversies by liberally consulting away the welfare of the species. The Justice Department must disavow its proclivity to adopt the action agency as its client and the federally protected wildlife species as its opponent.<sup>552</sup> All line agencies are subject to pressures from departmental superiors whose philosophies may not coincide with the ideal embodied in the Act.<sup>553</sup> Without an additional stimulus, the government agencies and officials could be expected to implement and enforce the Act with something less than exuberance, for its application inevitably will breed hostilities, and angry people cause many more problems for officials than do snail darters.

Individuals and organizations lumped together under the epithetic labels of "environmentalists" or "preservationists" provide such a stimulus. They typically are shrill, impecunious, and overworked, but they have sharpened the cutting edge of the law. Although the Fish and Wildlife Service has stood up for endangered species more strongly than some considered politically wise or possible in some instances,<sup>554</sup> the FWS is constrained by budgets, politics, and

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550. An example is the Forest Service mandate to administer lands under its jurisdiction for multiple use and sustained yield of five resources: wildlife and fish, outdoor recreation, watershed, range, and timber. Multiple-Use, Sustained Yield Act of 1960, 16 U.S.C. §§ 528-531 (1976). An agency's flexibility depends of course on the statutes governing its operations.

551. *Cf. Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1170-71 (D. Neb. 1978) (REA failed to consult with FWS within meaning of § 7 prior to making loan guarantee commitment to sponsors of Missouri Basin Power Project).

552. In all known instances when the FWS issued an adverse biological opinion and the action agency decided to continue in the face of it, the Justice Department has chosen to support the action agency in subsequent litigation. After the *TVA v. Hill* decision, if not before, the Department's choice to litigate against the objects of congressional solicitude seems questionable, especially since it, as an agency, is also bound to conserve listed species. 16 U.S.C. § 1536(a) (Supp. IV 1980).

553. The Secretary of the Interior oversees water development agencies (*e.g.*, the Bureau of Reclamation) and resource development agencies (*e.g.*, the Bureau of Land Management), as well as the FWS. Even before the Reagan Administration took office, most ESA conflicts between the positions of FWS and the other agencies apparently were decided in favor of the latter (*e.g.*, all of the litigated offshore oil lease sales).

554. The Tellico Dam controversy is an example of such courage. The dam was well underway when the agency listed the snail darter as endangered, thereby setting into motion the powerful arm of section 7. The FWS persisted in its view all the way to the Supreme Court. *See TVA v. Hill*, 437 U.S. 153, 161-

the governmental structure.<sup>555</sup> Environmental organizations brought the lawsuits to protect the Indiana bat,<sup>556</sup> the Mississippi sandhill crane,<sup>557</sup> the snail darter,<sup>558</sup> the palila,<sup>559</sup> and the bowhead whale,<sup>560</sup> after FWS or NMFS consultation failed to deter the action agency from its allegedly destructive course. Fulfillment of ESA goals will continue to rest to a large extent in the hands of private persons and organizations who are willing to devote their resources to policing the police. In any event, the human factor will always be a critical element in species protection. Threatened and endangered species have descended to that state largely through causes of human origin. Wildlife population declines will be reversed only if people enforce the statutes to the detriment of other people.

Taken together with fragments of the common law and prior judicial law-making, the provisions of the ESA amount to the assertion of a federal public trust in the listed species.<sup>561</sup> The public trust notion long has been applied to ownership of wildlife<sup>562</sup> and to justify stringent controls over wildlife exploitation,<sup>563</sup> but the concept seldom has been seen as imposing enforceable duties on the public body to protect the populations of any particular species.<sup>564</sup> Section 7 of the ESA now explicitly imposes that duty on federal and many state<sup>565</sup> agencies that list species.<sup>566</sup> The trust doctrine does not transcend or outweigh any specific ESA provision, but it should be the overriding theme in

62 (1978) (notwithstanding near completion of Tellico Dam, Secretary listed snail darter as endangered species and found area affected by dam to be its critical habitat).

555. In this connection, the Office of Management and Budget (OMB) has enormous influence over policy, and the OMB often appears to be the most "anti-environmental" agency in the federal establishment. See *Sierra Club v. Department of Interior*, 424 F. Supp. 172, 173-75 (N.D. Cal. 1976) (Interior Department exonerated of previously found failure to perform duties under federal park statutes; failure due to intransigence of OMB in refusing funds or increased regulatory authority).

556. See *Sierra Club v. Froehike*, 534 F.2d 1289 (8th Cir. 1976).

557. See *National Wildlife Fed'n v. Coleman*, 529 F.2d 359 (5th Cir. 1976), *cert. denied*, 429 U.S. 979 (1976).

558. See *TVA v. Hill*, 437 U.S. 153 (1978).

559. See *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

560. See *North Slope Borough v. Andrus*, 642 F.2d 589 (D.C. Cir. 1980).

561. The relationship between wildlife and the government has long been thought special. The notion that state governments hold wildlife in trust for the people goes back further than *Geer v. Connecticut*, 161 U.S. 519 (1896). See W. RODGERS, *ENVIRONMENTAL LAW* § 2.16 (1977) (public trust doctrine developed at common law to protect resources against dissipation); Coggins, *supra* note 44, at 304-08 (nineteenth century Supreme Court decisions established rule that wildlife is owned by the several states in trust for the people); *cf.* *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985, 993-95 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981) (Endangered Species Act recites that United States has pledged self as a sovereign state in international community to conserve species facing extinction).

562. *Geer v. Connecticut*, 161 U.S. 519, 529 (1896), *overruled*, *Hughes v. Oklahoma*, 441 U.S. 322 (1979).

563. See *Delbay Pharmaceuticals, Inc. v. Department of Commerce*, 409 F. Supp. 637, 642 (D.D.C. 1976) (ESA, which focuses state and federal government resources toward goal of protecting endangered species, prohibits shipment in interstate commerce of legally imported substance derived from endangered species).

564. *Cf. In re Steuart Transp. Co.*, 14 Env't Rep. Cas. (BNA) 1172, 1173 (E.D. Va. 1980) (under public trust doctrine, state and federal governments have duty to protect and preserve public's interest in natural wildlife resources).

565. The Endangered Species Act authorizes the Secretary to enter into cooperative agreements with states that establish and maintain programs for the conservation of endangered and threatened species, 16 U.S.C. § 1535(c) (Supp. IV 1980), and most state agencies are grantees of such programs.

566. 16 U.S.C. § 1536 (Supp. IV 1980).

the judicial review of land use conflicts arising under the acts.<sup>567</sup>

This section assesses the possible impact of the amended ESA on many major land uses in this country. The subsections that follow arbitrarily divide land uses into federal projects, federal programs and activities, state and private projects and activities that require federal licenses or federal money, and purely private projects and activities. The Endangered Species Act promises or threatens to have some effect in each category.

#### A. FEDERAL PROJECTS AND PROJECT OPERATION

*The dilemma of dealing in absolutes instead of using risk-benefit analysis to arrive at a balanced public interest is easily shown. At the base of the Tellico Dam are several varieties of snails, at least one of which is threatened. If preservation of the Snail Darter which feeds on snails endangers the threatened snail, must preservation of the Snail Darter cease? What if the prime food of the threatened snail is an endangered aquatic plant?*

*1978 House Hearings*, at 854 (statement of Donald Simpson, Pacific Legal Foundation).

All federal departments and agencies require some physical facilities, even if just office buildings, and from time to time they will undertake construction of some project. The standard federal projects in Washington, D.C. and other metropolitan areas are not likely to affect listed species. The federal development projects for transportation, water resources, and defense have higher conflict potential.

The federal government is heavily involved in many areas of transportation: federal trust funds finance highways and airports; federal agencies to some degree regulate airlines, railroads, and truckers; barge traffic relies on federal navigation improvements; and public transportation in cities may become a high federal priority in coming years. Transportation projects that could harm endangered species pose fairly straightforward questions. Transportation systems oriented toward developed municipalities are unlikely to spark section 7 conflicts, but highway construction is likely to generate such controversy. Amendments to the Federal-Aid Highway Act and the Department of Transportation Act as interpreted in the classic 1971 *Overton Park* opinion,<sup>568</sup> somewhat subdued the proclivity of road builders for routing new superhighways through publicly owned natural areas, but those tendencies cropped up again when the roadbuilders opted to bisect the Mississippi sandhill crane habitat with a segment of Interstate 10.<sup>569</sup> Future conflicts will be resolved by FWS

567. See Wilkinson, *The Field of Public Land Law: Some Connecting Threads and Future Directions*, 1 PUB. LAND L. REV. 1, 28-29 (1980) (courts should apply public trust doctrine to scrutinize strictly public land law issue); Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C.D. L. REV. 269, 311-13 (1980) (public trust doctrine should be used as rule of construction for statutes related to public lands). For an example of judicial review utilizing the public trust doctrine, see *United Plainsmen Ass'n v. North Dakota State Water Conservation Comm'n*, 247 N.W.2d 457 (N.D. 1976).

568. *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971).

569. *National Wildlife Fed'n v. Coleman*, 529 F.2d 359, 362 (5th Cir.), cert. denied, 429 U.S. 979 (1976).

determination of impact, assessment of alternate routes if critical habitat will be disturbed, and resort to the ESC if other routes are not reasonable and prudent.

The major focus of endangered species litigation to date has been on water resources projects. Environmental interests challenged the Tellico Dam, the Meramec Dam, and the Grayrocks Reservoir, while proponents of the Columbia and Lufkata Dams have sought court orders to remove from the official list the endangered species impeding their progress.<sup>570</sup> Another equally abrasive dispute over a project in Nevada has not yet reached the courts,<sup>571</sup> and the court in the litigation over Colorado River development has not entered a final judgment.<sup>572</sup> Because water is a critical element in the habitat requirements of all species, many of which are intimately dependent upon aquatic habitats,<sup>573</sup> the federal government as water engineer likely will be embroiled in many similar disputes in the future. The biggest dangers posed by water resource projects for listed species are destruction of free-flowing river characteristics, barriers to passage, reduction of water levels, reduction of water flows, and salt water intrusion. The Army Corps of Engineers and the TVA have been in the legal spotlight so far, but the Bureau of Reclamation and the Soil Conservation Service also construct dams and diversions.

The easy case from the legal standpoint will still be the one in which the federal project will alter the entire habitat of the species and will likely render the species extinct. Under section 7 of the ESA, the conflict is unavoidable. The action agency seldom concedes that alternative means of achieving the same human end without destructive effects are adequate.<sup>574</sup> After consultation with the FWS has confirmed those conclusions, the dispute must be taken to the review board and the ESC for resolution. The review board must pass on the existence of an irreconcilable conflict and the agency's good faith cooperation in consultation.<sup>575</sup> Assuming the review board finds good faith, the critical criteria for the ESC's exemption decision will be the regional importance of the project and the public interest in its completion.<sup>576</sup> If the ESC grants an exemption, the section 9 problem of taking ceases to exist,<sup>577</sup> but the action agency must use all possible mitigation measures.<sup>578</sup> If the ESC denies

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570. See *supra* notes 178-205 and accompanying text (discussing cases challenging Secretary's decisions to list species as endangered or threatened).

571. See *Hearings Before the Subcomm. on Fisheries and Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries on H.R. 10883*, 95th Cong., 2d Sess. 404-04 (1978) (statement of Ival Goslin) (LaVerkin Springs Salinity Control Unit).

572. See *supra* notes 206-30 and accompanying text (discussing *Colorado River District*).

573. See *Cappaert v. United States*, 426 U.S. 128 (1976) (Devil's Hole pupfish, to spawn in springtime, require underwater algae from rock shelf); *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156, 1161 (6th Cir. 1978) (migratory waterfowl and fish require adequate river flow).

574. While NEPA analyses and NEPA-generated controversies have forced water development agencies into higher levels of sophistication and more skeptical attitudes toward their own ideas, Congress still regards dam building as a political plum, above mere cost or ecological considerations. President Carter's abortive attempt to curtail pork-barrelling with a "hit list" is instructive, as is Senator Baker's success in reinstating the concededly boondoggish Tellico project.

575. 16 U.S.C. § 1536(g)(5) (Supp. IV 1980).

576. See *supra* text accompanying notes 506-10 (discussing "public interest" and "regional or national significance" criteria for ESC exemption).

577. 16 U.S.C. § 1536(o) (Supp. IV. 1980) provides that any action for which an exemption is granted "shall not be considered a taking of any endangered or threatened species with respect to any activity which is necessary to carry out such action."

578. *Id.* § 1536(h)(1)(B), (l)(1).

an exemption, the project proponents may seek judicial relief—which, if granted, probably will be limited to requiring ESC reconsideration<sup>579</sup>—or congressional reversal.

Water projects with less direct or immediate effects on listed species raise more difficult issues of interpretation and application. Suppose, for example, that an endangered butterfly lives only in a freshwater marsh in the delta region of California,<sup>580</sup> a part of which has been designated critical habitat, and that the Bureau of Reclamation proposes an immense project to divert delta waters for irrigation and municipal purposes in Southern California.<sup>581</sup> Suppose further that it is possible, if not probable, that the diversion will result in some intrusion of salt water into the delta that may—or may not—eventually alter the composition of marsh plants on which the butterfly depends, possibly but not probably resulting in the extinction of the insect over a period of years. Such unintentional, indirect habitat modifications are more frequent occurrences than the cataclysmic, direct effect of a single project, and scientific uncertainty about the ultimate consequences is more the rule than the exception.

The application of the Act and the reactions of the various levels of decisionmakers to this conflict are difficult to predict. The project as described arguably violates the ESA in three separate ways: its ultimate effect is to jeopardize the continued existence of the species;<sup>582</sup> its intermediate effect is the adverse modification of critical habitat;<sup>583</sup> and it will, in the aggregate, constitute a taking of an endangered species.<sup>584</sup> A finding that either of the first two of these violations will occur supports an injunction against the further commitment of resources to the project;<sup>585</sup> an imminent taking also may afford a ground for injunctive relief.<sup>586</sup> If the Bureau of Reclamation or the FWS can demonstrate that the project will not in fact harm the species, the ESA problem will be resolved at this point. But uncertainty over whether and to what extent the project will adversely affect the butterfly should not be a defense: the Bureau has the burden of *insuring* that no significant harm will ensue.<sup>587</sup>

579. *Id.* § 1536(n). The statute specifies that any party may obtain judicial review of any decision of the ESC under the Administrative Procedure Act. The courts cannot, of course, substitute their judgment on the merits but must instead remand to allow the ESC to reconsider the matters found arbitrary or illegal.

580. Seven species of butterflies in California are listed as endangered. 50 C.F.R. § 17.11 (1980).

581. The notion is not far-fetched. *See California v. Sierra Club*, 451 U.S. 287, 290-91 (1981) (describing state and federal projects to divert water from Sacramento-San Joaquin Delta to central and Southern California).

582. This assumes that “jeopardization” will be construed as set out *supra* at text accompanying notes 262-86.

583. *Cf. Nebraska v. Rural Electrification Admin.*, 12 Env’t Rep. Cas. (BNA) 1156, 1171-72 (D. Neb. 1978) (finding that REA had not taken action necessary to ensure that Missouri Basin Power Project would not jeopardize continued existence of whooping crane or its habitat).

584. *Cf. Palila v. Hawaii Dep’t of Land and Natural Resources*, 639 F.2d 495, 497 (9th Cir. 1981) (“taking” of endangered species under ESA includes “harassing,” which regulations define to include intentional or negligent acts or omissions that significantly disrupt species’ behavior patterns).

585. *See TVA v. Hill*, 437 U.S. 153, 165-66, 168, 173 (1978) (activities incident to Tellico project enjoined because they caused adverse modification of critical habitat that probably jeopardized endangered species).

586. *See Palila v. Hawaii Dep’t of Land and Natural Resources*, 471 F. Supp. 985, 999 (D. Hawaii 1979) (defendant enjoined from acts that significantly modify Palila’s critical habitat and thus constitute taking of endangered species), *aff’d*, 639 F.2d 495 (9th Cir. 1981); *see also supra* text accompanying notes 324-86 (discussing interpretation of “taking” under ESA).

587. *See TVA v. Hill*, 437 U.S. 153, 173 (1978) (Endangered Species Act commands all federal agencies to ensure that their actions do not jeopardize an endangered species or adversely modify its

A determination that a conflict does exist is only the first step. Without an agreement with the FWS that is supportable factually and acceptable to monitoring environmental organizations, the agency must cease construction and apply to the ESC for an exemption.<sup>588</sup> The diligence with which the agency seeks alternatives may determine the project's fate. If the Bureau is adamantly against any change in its plan, the project will die, leaving only the hope of congressional resurrection, because the failure to seek alternatives demonstrates bad faith that bars recourse to the exemption procedure.<sup>589</sup> The best interests of the Bureau, therefore, lie in cooperating fully with the FWS in the consultation process. Open-mindedness likely will make possible the location of "reasonable and prudent alternatives" to the initial diversion plan, such as project modifications, intrusion barriers, or lower level operating criteria.

If the alternative selected is expensive, however, an inadvertent problem arises under the Act: whereas mitigation decreed by the ESC as a condition to an exemption does not count in the calculation of the project's benefit/cost ratio,<sup>590</sup> no such exception is set out for measures voluntarily adopted by the agency in the consultation process.<sup>591</sup> Thus, if the costs of the corrective measures lower the ratio below unity, the action agency will be forced either to seek an ESC exemption or to abandon the project.<sup>592</sup> Even if the ratio remains above unity, the project will appear, accurately, to be less valuable.

Assuming that the action agency incorporates protective features into the project design sufficient to satisfy FWS that significant harm to the species will be avoided, continuation of the dispute is then in private hands. A project of the magnitude imagined, with effects on a wide range of environmental, economic, social, and other interests, is bound to attract vocal opposition and probably litigation. If the FWS biological opinion evidences uncertainty over the possibility of jeopardization or habitat modification, or if the opponents can adduce persuasive evidence of such consequences, the challenging litigants still might be able to obtain an injunction against resource commitment, forcing an application to the ESC.<sup>593</sup> Time could be a problem in such a case

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habitat); *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156, 1171 (D. Neb. 1979) (ESA places burden upon agencies who are authorizing, funding, or carrying out programs to ensure that those programs do not jeopardize endangered species or habitat of species); *Defenders of Wildlife v. Andrus*, 428 F. Supp. 167, 170 (D.D.C. 1977) (ESA requires Interior Department to do more than just avoid elimination of endangered species; it requires Department to bring species back to point at which it can be removed from protected class).

588. Construction is an irrevocable commitment and thus, under 16 U.S.C. § 1536(d) (Supp. IV 1980), may not be continued if it would foreclose reasonable and prudent alternatives that would not jeopardize an endangered species or adversely affect its critical habitat.

589. Under 16 U.S.C. § 1536(g)(5) (Supp. IV 1980), a determination by the review board that the agency has not made a reasonable and responsible effort to develop and fairly consider modifications or reasonable and prudent alternatives is considered final agency action. The agency's only resort then is judicial review under the Administrative Procedure Act, which likely would be limited to an examination of the review board record. *See supra* notes 481-85 and accompanying text (discussing review board determinations and availability of judicial review).

590. 16 U.S.C. § 1536(1)(2) (Supp. IV 1980). *See supra* notes 512-16 and accompanying text (discussing mitigation and enhancement measures and their exclusion from project cost computations).

591. 16 U.S.C. § 1536(1) (Supp. IV 1980) refers only to mitigation measures established by the ESC.

592. Although the process by which benefit/cost ratios for dams are calculated can be farcical, as illustrated by *Sierra Club v. Froehle*, 359 F. Supp. 1289, 1362-81 (S.D. Tex. 1973), *rev'd sub nom.* *Sierra Club v. Callaway*, 499 F.2d 982 (5th Cir. 1974), the agency is legally required to find that benefits will exceed costs. 33 U.S.C. § 701a (1976).

593. Water projects are not segmented in the same fashion as offshore oil lease sales, so the step-by-step rationale of *North Slope Borough v. Andrus*, 642 F.2d 589 (D.C. Cir. 1980), should be rejected in

because the Act requires application within ninety days of final agency action, and more than ninety days will have passed since the rendition of the biological opinion and the Bureau's decision to proceed.<sup>594</sup> The Act does not cover this problem;<sup>595</sup> the reasonable solution is that the application time runs from the date the judicial order becomes final.

If the FWS opinion recites that the project will not cause significant harm, challengers will have a tougher row to hoe, but the obstacles to judicial relief may be surmountable. Several arguments militate against the conclusion that the biological opinion is conclusive. First, courts are aware that the FWS, although certainly the "expert" agency in wildlife matters, is neither infallible<sup>596</sup> nor immune from the influence of political pressures.<sup>597</sup> Second, Congress did not say that the biological opinion would be conclusive. Instead, the standard remains that the action agency must insure against dire consequences, and the burden of persuasion is still on the agency to demonstrate that insurance. In other words, if the litigant can demonstrate the possibility of jeopardization, habitat modification, or taking, the agency thereafter has the burden of persuading the court that the dire effects will not occur.<sup>598</sup> The FWS opinion may be evidence tending to prove that no jeopardization will occur, but the statute does not warrant finding the opinion conclusive.<sup>599</sup>

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favor of that in *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156 (D. Neb. 1978).

594. The sequence of events and deadlines for their completion under the consultation process are arranged somewhat awkwardly. The consultation process must be concluded within 90 days of the date on which it was initiated. 16 U.S.C. § 1536(b) (Supp. IV 1980). The deadline for completion of the biological assessment, which is a required part of consultation, is 180 days after the initiation of the consultation process. *Id.* § 1536(c)(1). The ESA does not resolve the timing problem on this point, but section 1536(b) allows the consultation period to be extended to a period of time mutually agreeable to the action agency and the Secretary.

595. The ESA does provide that a citizen's suit may not be commenced prior to 60 days after written notice of the violation has been given to the Secretary and to the alleged violator of the Act. 16 U.S.C. § 1540(g)(2)(A)(i) (1976). This provision seems to give the alleged violator time to submit an application for exemption prior to the initiation of the suit, assuming that the 90 day period has not lapsed.

596. *See Connor v. Andrus*, 453 F. Supp. 1037, 1041-42 (W.D. Tex. 1978) (court could find no rational basis to sustain FWS regulations restricting all duck hunting in selected areas as protective measure for endangered Mexican duck).

597. *See Defenders of Wildlife v. Andrus*, 455 F. Supp. 446, 449 (D.D.C. 1978) (regulations for use of Ruby Lake National Wildlife Refuge declared unlawful because in adopting regulations FWS balanced economic, political, and recreational interests against primary wildlife purpose of refuge and reached compromise not in the best interest of refuge or in conformity with its purposes).

598. This follows not only from the statutory language, "insure," but also from basic congressional purposes. "Congress has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it described as 'institutionalized caution.'" *TVA v. Hill*, 437 U.S. 153, 194 (1978). *But see Cabinet Mountains Wilderness v. Peterson*, 15 Env't Rep. Cas. (BNA) 2081, 2083 (D.D.C. 1981) (courts should not overturn agency determinations of no jeopardization unless determination arbitrary and capricious).

599. 16 U.S.C. § 1536(b) (Supp. IV 1980) (biological opinion and assessment under ESA). Even so, the FWS opinion is entitled to deference in the rest of the exemption process. The review board may only determine whether the FWS correctly concluded that an irresolvable conflict exists, and seems powerless to quarrel with the substantive content. 16 U.S.C. § 1536(g)(5) (Supp. IV 1980). The FWS opinions, as well as the opinions of other agencies responsible for certain species, have carried great weight in reviewing courts. *See, e.g., TVA v. Hill*, 437 U.S. 153, 173-74 (1978) (Court accepted Secretary's determination that TVA's acts would cause eradication of endangered species); *North Slope Borough v. Andrus*, 642 F.2d 589, 609 (D.C. Cir. 1980) (court considered biological opinion of National Marine Fisheries Service to be pivotal in ESA analysis); *National Wildlife Fed'n v. Coleman*, 529 F.2d 359, 372, 375 (5th Cir.) (district court attached special significance to testimony of author of FWS report; circuit court deferred to Interior Department's judgment on requirements for compliance with § 7 of ESA), *cert. denied*, 429 U.S. 979 (1976).

Even more interpretational difficulty will be encountered when the challenge is to the operation of the water resource project after construction. Assume—as is the case—that the series of dams on the Columbia River and its tributaries under the management of the Bonneville Power Administration (BPA) have caused or contributed to the decline of anadromous salmon runs in those rivers.<sup>600</sup> Assume further—as may become the case<sup>601</sup>—that a species in one of those rivers is listed as endangered in a significant portion of its range.<sup>602</sup> Assume finally—as seems to be the case—that if the dams operated at lower levels of power production and with higher levels of stream flow, the change would enhance the spawning capabilities of the listed species,<sup>603</sup> but also would require the breach or modification of BPA contracts to supply power.<sup>604</sup> A lawsuit to force the BPA to insure a minimum streamflow below its dams<sup>605</sup> would present significant questions of Endangered Species Act interpretation.

Prior cases lend some support to the initial conclusion that the combination of the dams' existence with their year-to-year operation constitutes a taking of the species and an adverse modification of their aquatic habitat. *Hill* teaches that listing of a species after project authorization is no bar to ESA application,<sup>606</sup> and that the operation of the dams is an action, because each year it remains to be carried out.<sup>607</sup> The Snail Darter case differed from the BPA hypothetical in that the action yet to be taken in the former was completion of construction. The difference appears immaterial, however, because the *Palila* case held that an established, ongoing program with a less direct impact on the species is still a taking within the meaning of the Act.<sup>608</sup> Federal agencies, as

600. Blumm, *Hydropower vs. Salmon: The Struggle of the Pacific Northwest's Anadromous Fish Resources for a Peaceful Coexistence with the Federal Columbia River Power System*, 11 ENVTL. L. 211, 216-17 (1981); Bodi, *Protecting Columbia River Salmon Under the Endangered Species Act*, 10 ENVTL. L. 349, 349 (1980).

601. The FWS and National Marine Fisheries Service are reviewing the biological status of upriver Columbia Basin salmon and steelhead trout to determine whether either species should be proposed for listing as endangered or threatened. Bodi, *supra* note 600, at 350 (citing 43 Fed. Reg. 45,628 (1978)). After two years of study, the agencies had not completed the review. *Id.*

602. 16 U.S.C. § 1533(c)(1) (1976) requires the Secretary of the Interior to publish a list of all species he has determined to be endangered and to specify over what portion of its range each is endangered.

603. See *Swinomish Tribal Community v. Federal Energy Regulatory Comm'n*, 627 F.2d 499, 506 (D.C. Cir. 1980) (when downstream flows are substantially lowered over short periods of time, anadromous fish fry are left stranded on sandbars and gravel bottoms and die). See also Blumm, *supra* note 600, at 220-21 (discussing seasonal flow manipulations on the Columbia River); Bodi, *supra* note 600, at 367-69 (discussing factors that have caused decline in population of anadromous fish in Columbia River).

604. See Blumm & Johnson, *Promising a Process for Parity: The Pacific Northwest Electric Power Planning and Conservation Act and Anadromous Fish Protection*, 11 ENVTL. L. 497, 539-49 (1981) (discussing BPA's long-term contracts and implications for congressional goal of parity of fish and wildlife protection with hydropower generation).

605. Cf. *Swinomish Tribal Community v. Federal Energy Regulatory Comm'n*, 627 F.2d 499 (D.C. Cir. 1980) (suit challenging validity of Federal Energy Regulatory Commission (FERC) orders permitting raising of height of Ross Dam in Washington State by 121 feet); *United States v. Washington*, 506 F. Supp. 187 (W.D. Wash. 1980) (treaties ensuring Indians' right to adequate quantities of fish incorporate right to environmental protection of fishery habitat). See Note, *United States v. Washington (Phase II): The Indian Fishing Conflict Moves Upstream*, 12 ENVTL. L. 469 (1982).

606. *TVA v. Hill*, 437 U.S. 153, 172 (1978).

607. See *id.* at 173 ("[i]t has not been shown . . . how TVA can close the gates of the Tellico Dam without 'carrying out' an action that has been 'authorized' and 'funded' by a federal agency").

608. *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981); see *supra* notes 359-84 and accompanying text (discussing *Palila*).



"persons" subject to the ESA,<sup>609</sup> are forbidden to take endangered species, as is anyone else.

If plaintiff bases the suit to enjoin high level operations *only* on section 9, and the court agrees that a continuing taking violation has occurred, the question will arise whether the section 7 exemption procedure is available. The major congressional themes of the ESA directly conflict. On the one hand, Congress intended the 1978 Amendments to introduce sufficient flexibility to allow consideration of other significant public goals and interests,<sup>610</sup> and the distribution of cheap, subsidized power is certainly important in the regional economy. On the other hand, section 7 is self-contained; it appears directed more at initial construction than subsequent operation,<sup>611</sup> and the importance of the fishery resource to the region buttresses the goal of species protection.<sup>612</sup>

The better view is that the Endangered Species Committee has jurisdiction over the matter and the power to grant an exemption. This conclusion stems from the obvious truth that the magnitude of the takings caused by the dams' operation necessarily must be an adverse habitat modification, if not an instance of partial jeopardy to the continued existence of species, either of which triggers section 7. The litigation strategy of the plaintiff need not blind the court to the biological realities nor limit judicial discretion in shaping appropriate relief. Although many "takings" will not also invoke section 7 and thus the ESC consideration,<sup>613</sup> such invocation will be proper when the operation of a federal project is capable of widespread harm to a listed species.

This conclusion, of course, only gets the BPA from the fire into the frying pan. Plaintiff presumptively has established a violation of section 9, and the judicial finding of a section 7 violation is probable. The BPA could have contested the initial listing of the species, but if FWS had done its homework, the challenge would have failed in view of the conceded perilous declines of many anadromous species from pre-dam abundance.<sup>614</sup> When a species is listed as endangered, even in only part of its range, the ESA mandates agencies to use all means and methods for restoration of the species.<sup>615</sup> Courts are bound to give effect to that legislative judgment.<sup>616</sup> Under those guidelines, the court should find both that the action of BPA in running its dams to the detriment of the fish jeopardizes the continued existence of the fish run and that the action modifies if not destroys its critical habitat. The probable end result is an injunction against high operational levels and an order for a mandatory minimum streamflow until BPA has completed the consultation process with FWS and, if necessary, applied to the ESC for an exemption.

The statutory exemption criteria will be of little help to the ESC in resolving

609. 16 U.S.C. § 1532(13) (Supp. IV 1980).

610. *Id.* § 1536(h)(1).

611. In requiring biological assessments, the statute speaks of "construction," *id.* § 1536(c)(1), but elsewhere uses the all-inclusive "action."

612. See Bodi, *supra* note 600, at 349 (discussing fisheries and other commercial enterprises reliant on Columbia River).

613. See *infra* notes 747-52 and accompanying text (discussing hypothetical "taking" to which § 7 inapplicable).

614. See Bodi, *supra* note 600, at 366 (discussing decline in numbers of salmon and steelhead in upper Columbia Basin).

615. 16 U.S.C. §§ 1532(3), 1536(a) (Supp. IV 1980).

616. See *supra* notes 387-91 and accompanying text (discussing *Hill* Court's effectuation of Congress' judgment in enacting ESA).

this matter because each litigant has statutory factors and equities on its side of the question. The BPA can argue with some force that its program is one of great regional significance and that Congress, by authorizing the system of dams, has conclusively demonstrated that the system is in the public interest.<sup>617</sup> The salmon defenders will point out that the year-to-year operational levels differ from the overall project authorization and that Congress in numerous ways has given special attention to the valuable anadromous fish resource.<sup>618</sup> The key element in the Committee's decision is likely to be its estimation of reasonable and prudent alternatives: certainly an alternative to high level operations exists, but whether it is either reasonable or prudent is an essentially subjective judgment. Given that mitigation is required,<sup>619</sup> and that mitigation is really what plaintiff seeks, the weight of hypothetical argument appears to favor the species over the increased hydroelectric power.

Project construction and development by the Defense Department introduce another possible wrinkle of ESA interpretation. As noted above, the Secretary of Defense can dictate an exemption by his declaration that the project is necessary for national security,<sup>620</sup> but his decision is reviewable.<sup>621</sup> The Act clearly contemplates that the activities and projects of the Defense Department initially are subject to all of the section 7 constraints.<sup>622</sup> The Secretary can dictate an exemption only after the consultation process is completed and an application for an exemption filed.<sup>623</sup>

"National security" should not be synonymous with either "all Defense Department activities" or "anything that the Secretary thinks is a good idea." The location of a military installation may be beyond judicial purview, for example, but "national security" does not depend on whether its water supply should be drawn from a pool containing an endangered fish when alternative, if more costly, water supplies are available. Military activities carried on close to critical habitats were cited as a reason for passage of the 1973 ESA. Congress, highly wroth at the use as a bombing range of an island in close proximity to whooping cranes, made it clear that such disregard of the public weal must cease.<sup>624</sup>

#### B. FEDERAL PROGRAMS AND ACTIVITIES

*In most managed forests, wildlife habitat is a byproduct of timber management. As demands have grown for increased production of wood*

617. Confirmation, they could argue, is the enactment of the Pacific Northwest Electric Power Planning and Conservation Act of 1980, Pub. L. No. 96-501, 94 Stat. 2697. See Blumm & Johnson, *supra* note 604, at 504-08 (discussing congressional purposes in enacting Pacific Northwest Electric Power Planning and Conservation Act of 1980).

618. See Anadromous Fish Conservation Act, 16 U.S.C. §§ 757a-757g (Supp. IV 1980); see also Udall v. Federal Power Comm'n, 387 U.S. 428, 438 (1967) (Congress' great concern with depletion of anadromous fish resources led it to pass Anadromous Fish Conservation Act).

619. 16 U.S.C. § 1536(1) (Supp. IV 1980).

620. *Id.* § 1536(j).

621. See *supra* notes 517-21 and accompanying text (discussing national security exemption to ESA).

622. See *Romero-Barcelo v. Brown*, 643 F.2d 835, 857 (1st Cir. 1981) (Navy failed to fulfill its obligations under ESA § 7 to consult with FWS regarding Navy actions that affect listed endangered species), *rev'd on other grounds sub nom. Weinberger v. Romero-Barcelo*, 102 S. Ct. 1978 (1982).

623. 16 U.S.C. § 1536(g)(2)(A) (Supp. IV 1980).

624. See *TVA v. Hill*, 437 U.S. 153, 183 (1978) (quoting 199 CONG. REC. 42,913 (1973) (remarks of Rep. Dingell) (section 7 would require Defense Secretary to take steps to eliminate threat to whooping crane)).

*fiber, recreation, and livestock, as well as for increased allocation for wilderness, it has become increasingly obvious that such cliches as "good timber management is good wildlife management" will no longer suffice.*

J.W. THOMAS, WILDLIFE HABITATS IN  
MANAGED FORESTS 11 (1979) (USDA  
Agriculture Handbook No. 553).

Federal construction projects pose relatively simple problems of ESA interpretation compared to the nearly limitless array of federal programs and activities that do not necessarily involve construction. It would be fruitless to try to list or even categorize every federal program or activity. This section examines a few hypothetical examples from the areas of federal land management and federal regulation.

### 1. Federal Land Management

The United States government owns far more land in America than anyone else.<sup>625</sup> Federal ownership is crucial for endangered species protection because federal lands provide the last remaining habitat for many listed species.<sup>626</sup> The bulk of the federal land holdings is divided into five systems managed by four agencies: the National Wildlife Refuge System, managed by the Fish and Wildlife Service; the National Park System, managed by the National Park Service; the National Forest System, managed by the Forest Service; the Public Lands, managed by the Bureau of Land Management<sup>627</sup> and the National Wilderness Preservation System, units of which are managed by each of these agencies.<sup>628</sup> Each federal land management agency faces distinct legal problems under the Endangered Species Act.

The National Wildlife Refuge System comprises 34 million acres in 370-odd locations throughout the United States.<sup>629</sup> Although many parcels originally were set aside for the benefit of large game species or migratory waterfowl,<sup>630</sup> Congress has recognized endangered species protection as a very high management priority for the NWRS since 1966.<sup>631</sup> National wildlife refuges do not

625. The United States owns one-third of the nation's surface area, about 750 million acres out of the 2.3 billion acre total. *See generally* G. COGGINS & C. WILKINSON, FEDERAL PUBLIC LAND AND RESOURCES LAW 1-33 (1981) (discussing nature and extent of federal public lands).

626. Swanson, *supra* note 103, at 428.

627. *See generally* G. COGGINS & C. WILKINSON, *supra* note 625, at 34-143 (discussing history of public land law).

628. As of June 1980, the Wilderness Preservation System included more than 19 million acres. Additional acreage may be added to the System after the Bureau of Land Management completes wilderness review of the lands. 43 U.S.C. § 1782 (1976). Uses of wilderness areas are very restricted: commercial enterprise, roads, aircraft, structures, and most resource exploitation activities are prohibited. Those prohibitions tend to protect endangered and threatened species inhabiting designated lands. *See* 16 U.S.C. § 1133(b) (1976) (agency administering wilderness area shall be responsible for preserving its wilderness character and shall administer it for other proper purposes in manner consistent with preservation of its wilderness character).

629. Greenwalt, *supra* note 101, at 401. This and like numbers do not include additions to the systems in December 1980 by the Alaska National Interest Lands Conservation Act, Pub. L. No. 96-487, 94 Stat. 2371 (1980) (codified in scattered sections of 16 & 41 U.S.C. (Supp. IV 1980)).

630. Greenwalt, *supra* note 101, at 403.

631. *Id.*

afford animals refuge from all human activities. On the contrary, mining, mineral leasing, hunting, trapping, boating, camping, farming, and grazing all may be allowed if the Secretary determines that the activity is consistent with the purposes for which the refuge was established.<sup>632</sup> Refuge managers long emphasized politically popular goals such as propagation of game species and human recreation.<sup>633</sup> Although refuge management has become more "non-game" oriented in recent years, and the FWS attitude toward economic resource development has hardened, conflicts remain.<sup>634</sup>

Assume that a Great Plains game reservation or a migratory bird area in a major flyway was originally reserved for purposes unrelated to the rare or remnant species living there and that the traditional human uses of the refuges were compatible with the big game or the migratory birds, but not necessarily with the kit fox, the red-cockaded woodpecker, or the eastern indigo snake. Section 7's affirmative duty to conserve provides for another and overriding purpose for every refuge with resident endangered species, and it requires a reordering of management priorities to serve endangered species conservation. The FWS must reevaluate all human activities on the refuge for consistency with that purpose. A court has held that "consistency" is a biological determination that cannot be circumvented by "balancing" economic or political considerations.<sup>635</sup> The section 7 duty requires measures not only to avoid harm, but also to restore populations of endangered species.

The precedents supporting the foregoing conclusions are incomplete,<sup>636</sup> but they make these arguments plausible: the FWS must close a refuge to hunting if there is any possibility of either shooting a listed species through misidentification or impinging on its food supply; the agency must eliminate or reduce grazing if erosion caused by it silts up the stream inhabited by a rare fish;<sup>637</sup> and the FWS must curtail or outlaw human visitations to the extent they may disrupt shy, endangered animals.<sup>638</sup> In each instance, judicial resolution of the asserted conflict will depend primarily on the evidence of causal nexus between the activity and its effect on the protected species. Once such a relationship is established, the court should enjoin the agency from allowing the

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632. *Id.*; see also *Defenders of Wildlife v. Andrus*, 455 F. Supp. 446, 449 (D.D.C. 1978) (striking down as inconsistent with Refuge Recreation Act Interior Department regulations that permitted use of boat with unlimited horsepower in refuge and breeding ground for migratory birds); *Refuge Recreation Act*, 16 U.S.C. § 460K (1976) (permitting Interior Secretary to open for public recreation certain areas within National Wildlife Refuge System).

633. See Greenwalt, *supra* note 101, at 598.

634. R. HERBST, DIRECTOR, FISH AND WILDLIFE SERVICE, FINAL RECOMMENDATIONS OF THE MANAGEMENT OF THE NATIONAL WILDLIFE REFUGE SYSTEM (April 1979).

635. *Defenders of Wildlife v. Andrus*, 455 F. Supp. 446, 449 (D.D.C. 1978) (finding boating regulations inconsistent because they permit harm to wildlife resources in refuge).

636. See *TVA v. Hill*, 437 U.S. 153, 180 (1978) (Congress expressly stated that all agencies shall seek to conserve endangered and threatened species); *Defenders of Wildlife v. Andrus*, 428 F. Supp. 167, 169-70 (D.D.C. 1977) (agencies have affirmative duty to use all methods necessary to increase population of protected species).

637. In *Cappaert v. United States*, 426 U.S. 128 (1976), which involved a similar situation, the Court upheld an injunction against pumping underground water for livestock purposes, based upon an implied reservation of federal water rights. *Id.* at 137, 147.

638. *Cf. Defenders of Wildlife v. Andrus*, 455 F. Supp. 446, 449 (D.D.C. 1978) (striking down as inconsistent with Refuge Recreation Act Interior Department regulations that permitted use of speedboat in refuge and breeding ground for migratory birds).

activity until it can insure a lack of detriment.<sup>639</sup>

The National Park Service (NPS) will have less difficulty complying with the ESA because it has operated under a preservation mandate since 1916.<sup>640</sup> Most of the human economic land uses, including hunting, are barred from national parks, although some are allowed in other units of the Park System.<sup>641</sup> After earlier efforts at predator and other wildlife population control aborted, the NPS opted for the most "natural" management deemed possible, which means that it protects all native species in parks.<sup>642</sup>

One endangered species management problem is endemic to the Service. From Yellowstone to Glacier reside the last of the lower 48 states' grizzly bear populations, now listed as threatened.<sup>643</sup> The bears are leery of people and usually avoid them, but when aroused they occasionally maul or kill them. The Service has instituted a management program to keep bears and humans separated. The question is whether the Act requires more. Had the grizzly been listed as endangered, one could make a case that the NPS must redouble its efforts to prevent all close-range interaction with humans, perhaps by closing large areas to all human visitation. Because the species now is only "threatened," the protective measures need only conform to the regulations promulgated by the Secretary.<sup>644</sup>

The other federal land management agencies are not subject to the preservation or "consistency" standards. Both the Forest Service and the Bureau of Land Management (BLM) have charge of far more land than either the FWS or the NPS.<sup>645</sup> Much of that land is wild and undeveloped. It is under increasing developmental pressure,<sup>646</sup> and sharper land use disputes concerning it are likely.

The Forest Service is a "multiple use" agency required to give fish and wild-

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639. See *supra* notes 312-23 and accompanying text (discussing federal agencies' duty to conserve).

640. The purpose of national park management is "to conserve the scenery and natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." 16 U.S.C. § 1 (1976).

641. 36 C.F.R. §§ 2.32, 5.1-.16 (1981).

642. U.S. DEP'T OF INTERIOR, NATIONAL PARK SERVICE, ADVISORY BOARD ON WILDLIFE MANAGEMENT IN THE NATIONAL PARKS IV-6 (1963). Basic management policy is to strive to maintain natural abundance, behavior, diversity, and ecological integrity of native animals. *Id.* As part of "natural" management processes, natural fire, predation, and insect and disease epidemics are tolerated. *Id.* at IV-9, -12.

643. 50 C.F.R. § 17.11 (1981).

644. 16 U.S.C. § 1533(d) (1976).

645. See G. COGGINS & C. WILKINSON, *supra* note 625, at 34-143 (discussing history of public land law).

646. See, e.g., Rocky Mountain Oil and Gas Ass'n v. Andrus, 500 F. Supp. 1338 (D. Wyo. 1980) (action by trade association of oil and gas explorers challenging ban on mineral development in area selected for possible wilderness designation); Mountain States Legal Found. v. Andrus, 499 F. Supp. 383 (D. Wyo. 1980) (action by MSLF challenging inaction by Interior Secretary on pending applications to lease, for oil and gas exploration, certain areas selected for possible wilderness designation); California v. Bergland, 483 F. Supp. 465 (E.D. Cal. 1980) (action by California challenging Forest Service determination that certain areas selected for possible wilderness designation should be developed instead); Utah v. Andrus, 486 F. Supp. 995 (D. Utah 1979) (action by United States seeking to enjoin road building on federal land being studied for designation as a wilderness area). For a discussion of the resources found on those lands, see generally PUBLIC LAND LAW REVIEW COMMISSION, ONE THIRD OF THE NATION'S LAND (1970).

life "due consideration" in its resource decisionmaking.<sup>647</sup> Realistically, however, the main Forest Service business is timber harvesting, with other values served as circumstances allow.<sup>648</sup> Public outcry and statutory revision have eroded its bias for timber production,<sup>649</sup> and the ESA may erode it further. The Forest Service's proclivity for "even-aged management" is a prime candidate for such revision.

Even-aged timber management produces a forest monoculture dominated by a single, economically valuable tree in place of the original forest diversity.<sup>650</sup> The clearcuts and suppression of competing species with herbicides used in even-aged management can adversely affect some listed species. Clearcutting often destroys special habitat amenities required by the red-cockaded woodpecker or the spotted owl.<sup>651</sup> Pesticides such as the DDT used to spray for tussock moths can harm the reproductive capacity of peregrine falcons and bald eagles.<sup>652</sup> Herbicides, in addition to destroying plants that provide habitat, are potentially harmful to many species, including homo sapiens.<sup>653</sup> If an endangered species in the area would be adversely affected, the practice violates both sections 7 and 9 and may be enjoined.

The entire program by which habitat is altered on a regional or nationwide scale to the detriment of listed species with specialized forest habitat requirements raises more difficult questions. Clearcutting that indiscriminately removes necessary habitat amenities where a listed species is known to reside is clearly illegal and subject to injunction.<sup>654</sup> If the presence of such species is not known, the Forest Service must carry the burden of demonstrating no adverse effect.<sup>655</sup> The broader and more subtle question is whether a pattern of clearcuts in a region, even if endangered species are absent from each cut area, still constitutes a violation of the Act by reducing the available habitat that species might use or expand into. The Act does not directly answer the question. The argument that the regional program violates the Act will be founded on the Act's purpose to restore as well as maintain listed species, its emphasis on ecosystem preservation, and its imposition of an affirmative duty to conserve. In defense of its practices, the Service can point to a lack of evidence of jeopardization or taking, the absence of critical habitat modification, the restrictions against expansive critical habitat designation,<sup>656</sup> and the difficulty of establishing causal relationships. Unless plaintiffs can adduce strong evidence relating the program to harmful consequences to endangered species, the Forest Service probably will prevail.

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647. The Multiple-Use, Sustained-Yield Act of 1960, 16 U.S.C. §§ 528-529 (1976).

648. See Leopold, *supra* note 67, at 116-18.

649. See generally S. DANA & S. FAIRFAX, FOREST AND RANGE POLICY 306-20 (1980).

650. Leopold, *supra* note 67, at 110-11.

651. *Id.* at 113.

652. Lachenmeier, *supra* note 16, at 56; Leopold, *supra* note 67, at 113.

653. See *Citizens Against Toxic Sprays, Inc. v. Bergland*, 428 F. Supp. 908, 931-32 (D. Or. 1977) (discussing deleterious effects on humans of herbicide spraying).

654. See Lachenmeier, *supra* note 16.

655. *But see Texas Comm. on Natural Resources v. Bergland*, 573 F.2d 201, 212 (5th Cir. 1978) (Forest Service decision to pursue even-aged management and clearcutting subject to narrow arbitrary and capricious standard of review), *cert. denied*, 439 U.S. 968 (1978).

656. Except in exceptional circumstances, critical habitat cannot include the entire geographical area that a species may occupy. 16 U.S.C. § 1532(5)(C) (Supp. IV 1980).

The Bureau of Land Management faces a converse problem. While the Forest Service is converting pristine, old-growth forests into managed monocultures, the BLM must attempt to restore its millions of acres of sorely depleted rangeland back to productive grassland.<sup>657</sup> A century's mismanagement of the semi-arid intermountain ecosystems has severely damaged native wildlife populations.<sup>658</sup> The Sonoran Pronghorn, for instance, became endangered partially because of the competition from domestic ungulates.<sup>659</sup> Prolonged overgrazing has led to the takeover of much of the range by "pest" plant species such as mesquite, creosote, and sagebrush.<sup>660</sup> If grasses are to be reestablished to former abundance, such plants must be destroyed.

The BLM can improve range condition by reducing cattle and sheep grazing, making physical changes such as building fences, and eradicating undesirable shrubs.<sup>661</sup> Although the first course of action is the least expensive and probably the most beneficial for wildlife, it is also the most controversial because it could bankrupt some ranchers and hurt others.<sup>662</sup> Despite special funding for range improvements,<sup>663</sup> adequate funding is unavailable. All three approaches have been used by the agency as financial and political resources allow, but it has consistently focused on reversing the plant succession process, which can have detrimental effects on many species.<sup>664</sup>

The BLM prefers to eradicate brush by airborne application of potent herbicides.<sup>665</sup> Its burden of insuring that such a massive program<sup>666</sup> will not destroy critical habitat or take a listed species (there are about 70 in the affected area)<sup>667</sup> initially would appear insurmountable. The BLM, however, is under a court order to evaluate its grazing programs district-by-district by preparing

657. Public Rangelands Improvement Act of 1978, 43 U.S.C. §§ 1901-1908 (Supp. IV 1980).

658. See generally *Natural Resources Defense Council v. Morton*, 388 F.Supp. 829, 840 (D.D.C. 1974) (discussing failure of Bureau of Land Management to protect wildlife habitats adequately on grazing lands under its management); P. FOSS, *POLITICS AND GRASS* (1960); Cox, *Deterioration of Southern Arizona's Grasslands: Effects of New Federal Legislation Concerning Public Grazing Lands*, 20 ARIZ. L. REV. 697, 701-12, 740 (1979) (extensive deterioration of range lands through woody plant invasion, arroyo cutting, and general drying of streams and soils has occurred in past one hundred years).

659. 35 Fed. Reg. 8495 (1970); 32 Fed. Reg. 4001 (1967).

660. U.S. DEP'T OF INTERIOR, BUREAU OF LAND MANAGEMENT, FINAL ENVIRONMENTAL IMPACT STATEMENT, LIVESTOCK GRAZING MANAGEMENT ON NATIONAL RESOURCE LANDS III-9 (1974). Changes in plant species composition on the range have resulted in decreased habitat and food for wildlife. Grazing competition between livestock and wildlife increases the severity of habitat loss. The BLM expects that wildlife habitat will improve where "rest rotation" grazing systems are initiated. *Id.* at III-22.

661. See U.S. DEP'T OF INTERIOR, BUREAU OF LAND MANAGEMENT, EAST ROSWELL GRAZING ENVIRONMENTAL STATEMENT I-3 (1979) [hereinafter EAST ROSWELL GRAZING EIS].

662. Cf. *Valdez v. Applegate*, 616 F.2d 570, 572 (10th Cir. 1980) (reversing lower court denial of preliminary injunction against BLM reduction of rancher's grazing allocation, finding that reduction could force some grazing permit holders out of business).

663. Public Rangelands Improvement Act of 1978, 43 U.S.C. §§ 1901-1908 (Supp. IV 1980).

664. Cf. *Diamond Ring Ranch, Inc. v. Morton*, 531 F.2d 1397, 1398-99 (10th Cir. 1976) (BLM revoked rancher's license to graze livestock on federal lands because rancher indiscriminately sprayed sagebrush on federal land, thus at least temporarily eradicating sagebrush that fulfilled food and habitat needs for wildlife).

665. See EAST ROSWELL GRAZING EIS, *supra* note 661.

666. The BLM manages over 170 million acres outside of Alaska.

667. See G. COGGINS & C. WILKINSON, *supra* note 625, at 659-61 (discussing endangered and threatened species residing in public land states of the West).

assessments of the environmental effects of grazing permits issued,<sup>668</sup> and the Federal Land Policy and Management Act of 1976 (FLPMA) requires it to promulgate detailed land use plans.<sup>669</sup> Each process offers an avenue by which the agency can evaluate the effects of its programs on known endangered species' habitats before the fact. The evaluation of a particular project of limited geographic extent should reveal the presence or absence of listed species.<sup>670</sup> But certainty is precluded in a program applicable to tens of millions of acres, and the burden of biological assessment is staggering.<sup>671</sup>

Private initiative must bear most of the burden of identifying and resolving species conflicts. Wildlife advocates must monitor the process and request cessation or safety precautions when and where negative impacts are possible. If the BLM agrees, the local problem is resolved. If the BLM refuses, the resulting litigation will turn on the biological facts. Is a listed species in the area? Will the herbicide program or the change in habitat harm it? If so, the action is illegal.

FLPMA commands the BLM to classify and manage "areas of critical environmental concern" (ACEC's) where "special management attention is required . . . to protect and prevent irreparable damage to important . . . fish and wildlife resources or other natural systems."<sup>672</sup> The BLM has assumed that it has fairly complete managerial discretion in ACEC designation<sup>673</sup> and that the presence of endangered or threatened species is merely a factor to be considered under the heading of "fish and wildlife resources."<sup>674</sup> This approach is clearly too narrow as it fails to take the mandatory, sweeping nature of the ESA into account. The affirmative duty of section 7 requires special protective management of any such area regardless of designation.<sup>675</sup>

## 2. Negative Federal Regulation and the Conservation Duty

The federal government acts like a private entrepreneur when it manages its lands, but its more important role is that of regulator. The federal regulatory function operates either by forbidding private activities deemed harmful (or dictating their mode of operation) or by licensing or financing those thought beneficial. Few reported decisions are at all relevant to the effect of the Endangered Species Act on negative federal regulation.<sup>676</sup> Nevertheless, the stat-

668. *Natural Resources Defense Council v. Morton*, 388 F. Supp. 829, 841 (D.D.C. 1974).

669. 43 U.S.C. §§ 1711-1712 (1976).

670. See *EAST ROSWELL GRAZING EIS*, *supra* note 661.

671. Cf. U.S. DEP'T OF INTERIOR, BUREAU OF LAND MANAGEMENT, FINAL ENVIRONMENTAL IMPACT STATEMENT, LIVESTOCK GRAZING MANAGEMENT ON NATIONAL RESOURCE LANDS I-7 (1974).

672. Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1711(a) (1976).

673. BUREAU OF LAND MANAGEMENT, AREAS OF CRITICAL ENVIRONMENTAL CONCERN—POLICY AND PROCEDURES GUIDELINES 10 (1980).

674. *Id.*

675. See *supra* notes 312-23 and accompanying text. The same duty should apply to BLM's wilderness review process. In 43 U.S.C. § 1782 (1976), Congress mandated that the BLM inventory all public lands with roadless areas of 5,000 acres or more for wilderness characteristics and study their suitability for inclusion in the National Wilderness Preservation System. The restrictive management standards that apply to lands under BLM wilderness review will inadvertently provide substantial protection for endangered and threatened species in the review areas. See Op. Solic. Dep't of Interior, 86 I.D. 91 (1978); U.S. DEP'T OF INTERIOR, BUREAU OF LAND MANAGEMENT, INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LANDS UNDER WILDERNESS REVIEW (1979).

676. See *Defenders of Wildlife v. Andrus*, 428 F. Supp. 167, 169-70 (D.D.C. 1977) (agency has af-



utory standards apply to every action of every federal agency, and seemingly unrelated administrative action or inaction<sup>677</sup> often can affect the welfare of listed species. Negative federal regulation may provide the context for judicial delineation of the range and contours of section 7's affirmative duty to conserve.

The Act first requires all agencies to have a conservation program. In the case of land management agencies, implementation of the requirement is relatively simple: by rule or practice, the agency must insure that it or its licensees do not harm a protected species, and it must take whatever steps are possible to assist the species' survival. The obligation is less clear, however, for federal agencies without direct jurisdiction over lands where endangered species reside or with missions not directly related to wildlife conservation.

A reasonable reading of section 7 would impose on all agencies duties first to review their operations for areas of potential conflicts with the welfare of listed wildlife and then to institute safeguards by regulation.<sup>678</sup> Further, the Act arguably requires agencies to take action whenever they have power to act and their inaction contributes, however indirectly, to a species decline.<sup>679</sup> If this interpretation is accepted, endangered species protection will be forced or insinuated into areas apparently beyond the contemplated scope of the Act. The statute, however, explicitly binds all federal agencies, and similar statutes have been similarly extended.<sup>680</sup> Many "nonenvironmental" federal agencies, for instance, have found themselves subject to NEPA procedures even though Congress did not specifically name them in the statute.<sup>681</sup>

Whether courts develop and extend the affirmative duty into unlikely areas is speculative. If they do, what might the affirmative duty require in practice? For example, if the SEC is considering the adequacy of a prospectus, is the agency compelled to deny registration if the applicant fails to disclose its activities that may run afoul of the ESA or its potential liability for them? Must the Bureau of Reclamation cancel contracts for delivery of water to farmers who are adversely modifying critical habitat?<sup>682</sup> Is the Corps of Engineers bound to blow up one of its dams if it would assist the recovery of an endangered species? Is the traditional prosecutorial discretion of the Justice Department over-

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firmative duty to increase population of protected species; must do more than avoid elimination), discussed at *supra* notes 315-20 and accompanying text. Although only the FWS was the defendant in that case, the same general duty applies to all federal agencies. *See* 16 U.S.C. § 1536(a)(1) (Supp. IV 1980) (all agencies must use authority to further purposes of Act by carrying out conservation of endangered and threatened species).

677. *Cf.* *Defenders of Wildlife v. Andrus*, 627 F.2d 1238, 1242-43 (D.C. Cir. 1980) (inaction is not action for purposes of NEPA).

678. 16 U.S.C. § 1536(a) (Supp. IV 1980).

679. Although the statute applies only to "actions" and inaction was deemed outside the scope of NEPA in *Defenders of Wildlife v. Andrus*, 627 F.2d 1238, 1242-43 (D.C. Cir. 1980), the line between the two is not as bright as the court assumed. The consequences of inaction can be as dire, and Congress sought affirmative changes in agency operations. *Cf.* 5 U.S.C. § 706(a)(1) (1976); *Aberdeen & Rockfish Ry. Co. v. SCRAP*, 422 U.S. 289, 318-19 (1975).

680. *See Coggins, Some Suggestions for Future Plaintiffs on Extending the Scope of the National Environmental Policy Act*, 24 U. KAN. L. REV. 307, 341-43 (1976).

681. *See Natural Resources Defense Council v. SEC*, 389 F. Supp. 689, 699 (D.D.C. 1974) (SEC rulemaking in corporate disclosure regulation must be in full compliance with letter and spirit of NEPA).

682. *See infra* notes 747-52 and accompanying text (discussing restrictions on private action when no governmental funding or permission involved).

ridden by this section in the case of an alleged ESA violator?<sup>683</sup> These and similar questions seem absurdly rhetorical, but the issues they raise are not that simple. In each instance, the drastic agency action would be in keeping with the spirit of the statute. The statutory language is mandatory and is later in time than the agencies' other statutory directives. And, after *Hill*, the line between reasonable and absurd is not bright. Plant and wildlife species are, after all, of incalculable value.<sup>684</sup> The literal approach used in *Hill* would support the imposition of a duty.

### C. FEDERALLY LICENSED OR FINANCED PRIVATE PROJECTS AND ACTIVITIES

*Since compensating losers is so impractical, a regulatory strategy was adopted for protecting species habitat, letting costs fall rather haphazardly on those developers unlucky enough to choose areas where endangered species live.*

Harrington, *The Endangered Species Act and the Search for Balance*, 21 NAT. RESOURCES J. 71, 85 (1981).

The number of private projects and activities that could run into problems under the Act is coextensive with the regulatory and financial reach of the federal government. These private actions include, but are not limited to, every project that affects a navigable waterway,<sup>685</sup> every water pollution point source,<sup>686</sup> every housing project financed by the Department of Housing and Urban Development,<sup>687</sup> every offshore oil lease,<sup>688</sup> every deep sea mining op-

683. Although the Justice Department litigates against endangered species on the civil side when they pose a threat to a federal project, *see supra* note 552 (discussing Justice Department support in subsequent litigation of agency acting contrary to FWS biological opinion), it has organized a Wildlife Law Section within the Lands and Natural Resources Division that appears zealously to be pursuing criminal convictions against illegal hunters and importers.

684. "[T]he plain language of the Act, buttressed by its legislative history, shows clearly that Congress viewed the value of endangered species as 'incalculable.'" *TVA v. Hill*, 437 U.S. 153, 187 (1978). The Supreme Court also noted that the legislative proceedings are "replete with expressions of concern over the risk that might lie in the loss of any endangered species." *Id.* at 178.

685. The Rivers and Harbors Act of 1899 prohibits the creation of any obstruction to the navigable capacity of any of the waters of the United States without permission of the Secretary of the Army. 33 U.S.C. § 403 (1976). This section of the Rivers and Harbors Act obviously is a powerful instrument of land use control. The Clean Water Act of 1977, 33 U.S.C. § 1341 (Supp. IV 1980), supplements the extent of federal control over alterations of waterways by requiring federal approval to conduct activity resulting in any discharge into navigable waters. W. RODGERS, ENVIRONMENTAL LAW 388, 399 (1977).

686. The Clean Water Act requires a permit for the discharge of any pollution into navigable waters from a point source. 33 U.S.C. § 1342 (1976 & Supp. IV 1980). The Act's permit requirement coupled with its broad definition of "point source" subjects most public and private entities to the complex regulatory scheme of water pollution control. "Point source" is defined as "any discernable, confined and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." *Id.* § 1362(14).

687. HUD mortgage guarantees and interest grants to private housing developers have been held to create a "partnership" between the developer and the Department that justifies an injunction against the developer's construction in the face of the Department's noncompliance with NEPA. *Silva v. Romney*, 473 F.2d 287, 289-90 (1st Cir. 1973).

688. Outer Continental Shelf Lands Act of 1953, 43 U.S.C. §§ 1331-1343 (1976 & Supp. IV 1980). The Secretary may prescribe rules for the conservation of natural resources, *id.* § 1334(a)(1), and natural resources includes all living things on the continental shelf, as well as mineral resources. *Union Oil*

eration,<sup>689</sup> every major hydropower project,<sup>690</sup> every interstate natural gas pipeline,<sup>691</sup> every federally financed highway,<sup>692</sup> and every significant coastal zone activity.<sup>693</sup> Whether the ESA also applies to "no strings" programs such as revenue sharing<sup>694</sup> or Pittman-Robertson distributions<sup>695</sup> has not been authoritatively decided.

This section takes up a series of areas, categorized by the type of land use, in which the endangered species legislation is likely to cause disputes. It singles out public land users, farmers, and energy developers.

### 1. Public Land Users

The public lands are being subjected to ever-increasing human demands for goods, such as minerals and timber, and for services and amenities, such as forms of recreation. They also provide the sole remaining habitat for many listed species. Miners, loggers, ranchers, and those who use motorized equipment, such as off-road vehicles, for recreation are most likely to be adversely affected by the ESA.

Miners have long been exempt from significant regulation because the Mining Law of 1872<sup>696</sup> was interpreted as giving them a near absolute right to locate and extract minerals from the public domain.<sup>697</sup> In recent years, some controls on mining have been authorized by legislation<sup>698</sup> and imposed by reg-

Co. v. Morton, 512 F.2d 743, 749 (9th Cir. 1975) (Secretary has power to suspend drilling operations on outer continental shelf to conserve all natural resources, not just mineral resources).

689. The Deep Seabed Hard Mineral Resources Act, Pub. L. No. 96-283, 94 Stat. 553 (1980) (to be codified at 30 U.S.C. §§ 1401-1428), requires that persons may not engage in any exploration or commercial recovery of minerals in the deep seabed without obtaining a license or permit. *Id.* § 1411. The permitting authority under the Deep Seabed Mining Act is the Administrator of the National Oceanic and Atmospheric Administration.

690. Federal Power Act of 1920, 16 U.S.C. § 802 (1976) (significant information to accompany application for license under federal regulation and development of power).

691. Pursuant to the Natural Gas Act, 15 U.S.C. § 717 (Supp. IV 1980), the Federal Energy Regulatory Commission (formerly the Federal Power Commission) regulates the transportation of gas in interstate commerce.

692. Department of Transportation Act, 49 U.S.C. §§ 1651-1659 (1976) (Department of Transportation assures coordinated, effective national transportation program); *see* National Wildlife Fed'n v. Coleman, 529 F.2d 359, 371-75 (5th Cir.) (Department of Transportation must insure its approval of construction of interstate highway does not jeopardize continued existence of endangered species), *cert. denied*, 429 U.S. 979 (1976).

693. The Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451-1464 (1976), authorizes the Secretary of Commerce to make grants to any coastal state for the purpose of assisting the state in the development of a management program for the land and water resources of its coastal zone and to oversee implementation of resulting plans. *Id.* § 1454.

694. *Cf.* Carolina Action Coalition v. Simon, 389 F. Supp. 1244, 1245 (NEPA not applicable to construction of new county judicial building when only federal participation was distribution of revenue sharing funds to aid local community), *aff'd*, 552 F.2d 295 (4th Cir. 1976).

695. Federal Aid to Wildlife Restoration Act, 16 U.S.C. §§ 669-669i (1976) (Pittman-Robertson) (federal and state cooperation in wildlife-restoration projects). For a discussion of the interaction of the Interior Secretary's duties under the Pittman-Robertson Act, NEPA, and the ESA, *see* M. BEAN, *supra* note 44, at 217, 244-48.

696. 30 U.S.C. §§ 22-39 (1976) (general mineral lands regulation and exemptions under Mining Law of 1872).

697. *See generally* G. COGGINS & C. WILKINSON, *supra* note 625, at 334-73; Haggard, *Regulation of Mining Law Activities on Federal Lands*, 21 ROCKY MTN. MIN. L. INST. 349, 349-51 (1975) (discussing regulation of rights to enter public land to explore and locate mining claims).

698. The Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701-1782 (1976), authorizes activities such as the regulation of mining with respect to recordation of claims, *id.* § 1744, activities in wilderness and wilderness study areas, *id.* § 1782, and activities in the California Desert

ulation,<sup>699</sup> but the right to explore for and mine hardrock minerals is still the highest priority public land use. Whether the land management agency, usually the BLM, can prohibit mining when it finds that the damage caused by the mining operation outweighs its economic benefits is yet to be determined.<sup>700</sup> Although the agencies probably lack the power to impose a direct prohibition except in certain extreme circumstances,<sup>701</sup> the ESA offers an avenue to accomplish the same result indirectly if the project threatens an endangered species. The miner must prove the discovery of a valuable mineral deposit to locate a valid claim.<sup>702</sup> The agency may take account of all probable costs, including the costs of compliance with environmental restrictions,<sup>703</sup> when determining profitability because "valuable" is construed to mean "immediately profitable to develop in the circumstances."<sup>704</sup>

Assume that a miner discovers a deposit of low grade ore that would be profitable to develop as an open pit mine in the absence of special costs. Assume further, however, that the deposit is located within the known range of the endangered Utah prairie dog or adjacent to a stream inhabited by the endangered humpback chub. The prairie dog will be displaced or disrupted by the pit mine, and the chub's stream likely will be polluted and silted up from runoff. If the project and its consequences become public knowledge, private parties should be able to enjoin the mining operation on the ground that it will effect a taking of the protected species, assuming that the causal relationship between project and species disruption can be established.<sup>705</sup>

Independent of the taking question, the land management agency may be able to invalidate the mining claim under the mining laws. The cost to the

Conservation Area. *Id.* § 1781. It also contains a catch-all section that authorizes the Secretary of the Interior to "take any action necessary to prevent unnecessary or undue degradation of the lands." *Id.* § 1732(b). See also Surface Resources Act of 1955, 30 U.S.C. § 612 (1976) (mining claim subject to United States right to manage surface resources and right of way).

699. 39 Fed. Reg. 31,317 (1974). See *United States v. Curtis-Nevada Mines, Inc.*, 415 F. Supp. 1373, 1378-79 (E.D. Cal. 1976) (defendant enjoined from conducting further mining until in compliance with regulation requiring filing of operational plan), *rev'd in part*, 611 F.2d 1277 (9th Cir. 1980) (public does not need license to enter mining area); Hecox & Desautels, *Federal Environmental Regulations Applicable to Exploration, Mining, and Milling*, 25 ROCKY MTN. MIN. L. INST. 9-1, 9-8 to 9-10 (1979) (development of federal regulation through BLM land use requirements).

700. An affirmative answer seemingly was assumed in *Friends of the Earth, Inc. v. Butz*, 406 F. Supp. 742, 748 (D. Mont. 1975) (environmental impact statement not required prior to Forest Service approval of exploratory mining operation), *dismissed as moot*, 576 F.2d 377 (9th Cir. 1978) (appeal from summary judgment remanded to dismiss as moot because activity sought to be enjoined ended when drillers struck water).

701. FLPMA alters mining law substantially, see *supra* note 698 (discussing FLPMA provisions), but Congress was careful to say that rights of claims and locators under the 1872 Act, especially rights of egress and ingress, were not otherwise affected. 43 U.S.C. § 1732(b) (1976).

702. 30 U.S.C. § 22 (1976) ("valuable" mineral deposits shall be free and open to exploration and purchase).

703. More specifically, the test for determining whether a valuable mineral has been discovered is a combination of a "prudent man test," which requires that a prudent person would labor for reasonable prospect of success, and a "marketability test," which requires that the mineral be extracted and marketed at a profit. *United States v. Coleman*, 390 U.S. 599, 602-03 (1968) (quartzite is common variety stone and not basis of valid mining claim).

704. *United States v. Kosanke Sand Corp.*, 80 I.D. 538 (1973). See generally Lundberg, *Birds, Bunnies, and the Furbish Lousewort—Wildlife and Mining on the Public Lands*, 24 ROCKY MTN. L. INST. 93, 113 (1978) (recognizing environmental constraints under ESA may alter marketability).

705. This conclusion follows from the *Palila* rationale. See *supra* notes 359-86 and accompanying text (*Palila* justifies enjoining a program if causal nexus exists between program and decline of listed species).

miner of complying with the Endangered Species Act is going to be the amount necessary to avoid any significant harm to the species' habitat. In the case of the prairie dog, it is difficult to imagine that any remedial measures would suffice to avoid disruption if the mineral and species areas coincide; even if they do not, mine relocation and controls to insure no disruption could be prohibitive. In the case of the humpback chub, it may be possible to construct and operate the mine in such a way to avoid pollution of the stream habitat if other water sources are available, but, again, the costs are likely to be high and will detract significantly from profitability. Particularly if the mine was marginally profitable at its inception, the costs of avoiding harm to listed species can render the operation unprofitable and thus invalidate the mining claim.<sup>706</sup> The same result is possible with respect to preference claims for fuel mineral leases,<sup>707</sup> in which a similar test of "profitability" is used and over which the management agency exerts more control.<sup>708</sup> The odds are against the miner who happens to locate a claim in an area already inhabited by an endangered species.

The effects of the ESA on public land logging operations are more easily predictable. If logging a particular area will destroy designated critical habitat, then the timber sale cannot go forward until such time as the ESC grants an exemption. An exemption in this instance is highly unlikely. The logger will have an insurmountable burden of showing no reasonable and prudent alternative, or regional or national significance, or even public interest, given the comparable areas available for sale and the relative insignificance of any individual timber contract.<sup>709</sup> If no designation of critical habitat has been made, but listed species are known to reside in the logging area, the result should be the same. The species will be jeopardized by loss of members and habitat and that disruption is a taking within the meaning of the Act, even if the species can and will relocate.<sup>710</sup> Loggers also may lose out from the incre-

706. *Cf.* Lundberg, *supra* note 704, at 114-115. "If the regional biologist has issued an opinion that mining on the claim will result in the taking of an endangered animal, then there may not be a valuable mineral deposit because the applicant would be prohibited by section 9 . . . from developing the claim." *Id.* at 114. "Because the value of an endangered species exceeds anything to which a value can be assigned, any land which is critical habitat . . . cannot be chiefly valuable for another purpose. Presumably the mandate of section 7 will also be applicable to mineral leases." *Id.* at 115.

707. A preference claim to a mineral lease is obtained when one holding a prospecting permit demonstrates that the land to which the permit applies contains commercial quantities of the mineral. Preference leases for coal were outlawed in 1975. *See American Nuclear Corp. v. Andrus*, 434 F. Supp. 1035, 1038 (D. Wyo. 1977) (application for coal-prospecting permit denied; not protected interests, proposals subject to discretion of Secretary of the Interior).

708. Regulations governing the issuance of coal preference leases require that the permittee show a reasonable expectation that his revenues will exceed development and operating costs. 43 C.F.R. § 3520.1-1(c) (1981). *See generally* Natural Resources Defense Council, Inc. v. Berklund, 609 F.2d 553, 556 (D.C. Cir. 1979) (*per curiam*) (lease applicant must establish profitability of mining, including costs of complying with environmental requirements).

709. Only a fraction of the nation's 500 plus million acres of commercial forest land are within the 187 million acre National Forest System. *But cf.* Sierra Club v. Hardin, 325 F. Supp. 99, 118-20 (D. Alaska 1971) (largest Forest Service timber sale upheld), *rev'd*, 3 ENVTL. L. REP. (ENVTL. L. INST.) 20,292, 20,293 (9th Cir. 1973) (newly discovered evidence requires district court to consider whether Forest Service gave due consideration to purposes other than timber production in national forest).

710. *Cf.* Palila v. Hawaii Dep't of Land and Natural Resources, 471 F. Supp. 985, 987-91, 995 (D. Hawaii 1979) (state maintenance of feral goat herds constitutes taking when endangered species habitat harmed through environmental modification; fencing herd insufficient because some would continue to threaten habitat), *aff'd*, 639 F.2d 495, 497 (9th Cir. 1981).

mental effects of timber harvesting; as discussed above, the pattern of harvesting, the clearcutting of timber, and the pesticides and herbicides used by the Forest Service in the aggregate conceivably could constitute ESA violations that would require cessation of timber sales in some places to compensate for the harm to listed species in others.<sup>711</sup>

The ESA also may demand further restrictions on recreational public land users. Off-road vehicles (ORV's) allow more people to penetrate formerly wild places, and their noise and presence can easily disturb shy species to the point of "significant disruption."<sup>712</sup> ORV's also tend to tear up fragile terrain with resulting erosion of the land and its ecosystems. Power boats have similar effects on aquatic environments.<sup>713</sup> The presence of a skittish endangered species should require the land management agency to close the entire area of the species' habitat to ORV or power boat use, and perhaps to all human visitation. If the species is vulnerable to disruption by noise, and if critical habitat has been designated, closure seems inescapable. If the causal nexus is uncertain, closure still should follow because the agency cannot insure a lack of jeopardization.

The Osgood Mountain milk-vetch, an endangered plant found only on mountainous national forest lands in Nevada and Idaho, is an example. The FWS designated critical habitat for it in Nevada but not in Idaho.<sup>714</sup> Mining operations are the immediate threat to its existence,<sup>715</sup> but any human activities in the area could affect it adversely. Assume that the milk-vetch habitat area is popular for motorcycle scrambling. The taking problem does not arise unless taking is specifically forbidden by FWS regulation<sup>716</sup> because taking endangered plants is not a statutory offense.<sup>717</sup> Thus, the question is whether the Forest Service has an obligation to prohibit or regulate motorcycle or other ORV use in either area. Because the Forest Service has proposed no action, the duties not to jeopardize or to destroy habitat may not come into play,<sup>718</sup> at least in Idaho. The position of those seeking closure would rest on the affirmative duty of the Forest Service to conserve. In this instance, it seems probable that a court would require protective steps, regardless of whether the area was officially designated as critical habitat.

Some seventy-odd endangered or threatened species live in Western states

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711. See *supra* text accompanying notes 654-56 (discussing problems in establishing causal relationships between clearcutting and jeopardization of forest habitat).

712. See 50 C.F.R. § 17.13(c) (1981) (definition of "harass" in definition of "take" is act which creates likelihood of injury). See generally D. SHERIDAN, OFF-ROAD VEHICLES ON THE PUBLIC LANDS (CEQ 1978).

713. See *Defenders of Wildlife v. Andrus*, 455 F. Supp. 446, 449 (D.D.C. 1978) (permanent injunction granted prohibiting use of motorboats in wildlife refuge).

714. 45 Fed. Reg. 53,968 (1980).

715. *Id.*

716. 16 U.S.C. § 1533(d) (1976) (issuance of conservation regulations by Secretary).

717. *Id.* § 1538(a)(2) (unlawful to import or export, or to deliver, carry, receive, ship, or sell in interstate or foreign commerce, an endangered species of plant).

718. See 16 U.S.C. § 1536 (a)(2) (Supp. IV 1980) (agency action may not jeopardize endangered or threatened species); cf. *Defenders of Wildlife v. Andrus*, 627 F.2d 1238, 1242-43 (D.C. Cir. 1980) (inaction is not action for purposes of NEPA). But see *National Wildlife Fed'n v. Morton*, 393 F. Supp. 1286, 1294-97 (D.D.C. 1975) (BLM issued regulations on ORV use that failed to satisfy executive order; BLM instructed to reissue regulation after considering alternatives to proposed action as required by NEPA).

where much of the national public land is located.<sup>719</sup> Some species, such as the various races of pupfish, occupy only a known, limited habitat, reducing the potential for interference with land uses while increasing the knowledge and means necessary for protection. Others, however, range widely: the known habitat of grizzly bears is in the millions of acres, eagles range over much of the West, and some fish, such as the Colorado River squawfish, lightly permeate entire river systems. For some rare species, such as the black-footed ferret, habitat is largely unknown. Public land users in the coming decade more frequently will encounter strange creatures, such as the Santa Cruz long-toed salamander, the Pahranaget bonytail, the Pahrump killifish, or the unarmored three-spined stickleback. The encounters will certainly be expensive and time-consuming, if not fatal to the desired land use.

## 2. Agricultural Land Users

Agriculture has caused the decline of many species by conversion of wild lands to monocultures and use of the higher and more destructive technologies now common on the farm. A number of agricultural practices contribute to wildlife declines. Bulldozing hedgerows eliminates shelter habitat. Draining marshes and potholes adversely affects many species.<sup>720</sup> Erosion from croplands adds an enormous silt burden to rivers.<sup>721</sup> Predator poisons kill nontarget animals.<sup>722</sup> Herbicides and pesticides take their toll, often indirectly and incrementally.<sup>723</sup> Plowing destroys the native ecosystems and eliminates many species while benefitting more adaptable ones.

Despite the asserted individualism of the American farmer, agriculture in the United States is heavily dependent upon the federal government. Farmers rely on irrigation water from federal reclamation projects. Western ranchers need the use of federal grazing land to make their operations profitable. The ordinary farmer is supported by a variety of direct subsidies, price supports, commodity loans, antitrust exemptions, tax breaks, import restrictions, rural electric cooperative financing, Soil Conservation Service assistance, and rural environmental assistance programs, among other federal benefits. In each form of assistance lurks the threat of federal controls over operations that imperil endangered species. Because a large portion of the land in the United States has been put to agricultural use, the potential for conflict is high.

Suppose a farmer in South Dakota intends to plow a patch of prairie, previously used only for grazing, that contains several prairie dog towns. Prairie dogs are the sole food source of the black-footed ferret, an endangered species sighted on rare occasion in the area. Plowing and planting will eradicate the prairie dog towns and may doom the area's ferrets, if any exist. The purpose of the proposed plowing is to grow corn that will be irrigated by water from a

719. 50 C.F.R. § 17.11 (1981) (list of endangered and threatened wildlife).

720. Burger, *Agriculture and Wildlife*, in *WILDLIFE AND AMERICA* 89, 96, 101 (H. Brokaw ed. 1978) (detrimental effects and changes in habitat caused by clearing land and drainage of marshes).

721. *Id.* at 101 (siltation from eroding farmland exterminated 25 mussel species in Illinois).

722. See generally Cain, *supra* note 54 (Dept. of Interior killed 190,763 predatory and nonpredatory animals with poison in 1963).

723. Burger, *supra* note 720, at 101 (pesticides carried by eroding soils jeopardize and exterminate fish species).

federal reclamation project pursuant to contract with the Bureau of Reclamation. Can the Bureau legally contribute to a private undertaking that will or may harm a protected species? If the area is critical habitat, the statutory answer is a clear "no." The only question that might bar an injunction against delivery of the water is whether the delivery will constitute an "action" within the meaning of the Act. Under *Hill*, the answer is "yes" because the delivery has yet to be carried out.<sup>724</sup> Even if deliveries already had begun, future deliveries are future actions, and the ongoing nature of the contractual obligation is not a defense.<sup>725</sup> The federal action could also be Soil Conservation Service assistance in building a farmpond to provide water, financing under the Rural Environmental Assistance Program, federal crop insurance, or other federal crop subsidies.

Although agency action is present, if the FWS has not designated the plowed area a critical habitat, the question becomes more diffuse and the facts of causation more critical. A reviewing court first will have to determine whether the action would be likely to jeopardize the continued existence of the species. This inquiry is problematical in light of the dearth of information on the secretive ferret. The Bureau, however, must shoulder the burden of showing a lack of substantial negative result. If a factual conclusion is favorable to the agency and farmer, then the court must face the question of whether a federal agency can be enjoined from indirectly assisting a possible private taking of a listed species. The answer will depend on the evidence: if the taking seems sufficiently imminent and certain, the limited authorities indicate that an injunction would be appropriate.<sup>726</sup> Possible remedies against the farmer are examined below.<sup>727</sup>

This example can be extended indefinitely to show that endangered species protection might well become an annoying thorn in the side of American agriculture, which still is the dominant American land use in terms of the acreage devoted to it. Although many farming and ranching practices benefit wildlife, on the whole agriculture has lowered wildlife numbers and diversity—necessarily so in some instances, but not in others. Rural America is the first to condemn restrictive zoning or land use planning, but the ESA is a land control measure tolerating no claims of higher values. Species listed as endangered or threatened and the natural systems essential for their survival have been impressed with a public trust that under law will override notions of the sanctity of private property use. Barring further statutory amendment, if the theoretical land use problems discussed above come about, farmers and ranchers will discover to their dismay that their individual initiative has been subordinated to the societal goal of species preservation.

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724. 437 U.S. at 186 n.32 ("section 7 affects all projects which remain to be authorized, funded or carried out").

725. *Id.* at 188 n.34 (agency must insure that species not extirpated as result of federal activities).

726. *See supra* notes 354-86 and accompanying text (discussing judicial response to potential rather than certain consequences of habitat modification).

727. *See infra* notes 747-52 and accompanying text (discussing private suit against farmer when no federal permission or money involved).



### 3. Energy Development Land Users

Energy-related development is likely to be the arena for the most severe conflicts between endangered species and human land use. Refineries, oil leases, deep water port facilities, pipelines, synfuel plants, shale oil and geothermal development, and dredging for barges are all national priorities. Already a Maine refinery,<sup>728</sup> several oil leases,<sup>729</sup> and a water project aimed at serving synfuel development<sup>730</sup> have been delayed because of problems arising under the ESA, and more such conflicts seem inevitable.

Private enterprise primarily conducts energy development in this country, but with overlapping layers of state and federal regulation. Because many future energy resources are located on federal lands, their extraction and processing will implicate the federal land management agencies, as well as the usual regulatory processes. Those regulatory processes include air and water pollution clearances; port, transportation, and other controls over oil importation; and regulation of all changes in the capacity of navigable waterways. In addition, the federal government exercises, in varying degrees, regulatory power over oil and gas prices, interstate natural gas pipelines, coal mine safety, strip-mining, hazardous waste disposal, and nuclear power generation. The upshot is that some federal agency will pass on some aspect of every significant energy facility or program. If members of an endangered species are in the path of an energy-related project, section 7 comes into play and section 9 is in reserve.

If a federal license or other clearance is required for a proposed energy development, which is almost a certainty, the licensing agency must consult with the FWS to identify affected species and consider means to avert adverse consequences.<sup>731</sup> For projects that irreconcilably conflict with listed species, ESC exemptions must be sought.<sup>732</sup> This naked description, however, does not do justice to the problems actually faced by an energy developer when a listed species enters the picture.

The proposed Pittston refinery in Maine is a good example. The Pittston Company not only had to comply with the strict plant-siting requirements imposed by Maine,<sup>733</sup> but also had to obtain federal clearances for air and water

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728. *Pittston Co. v. Endangered Species Comm.*, 14 Env't Rep. Cas. (BNA) 1257, 1260-61 (D.D.C. 1980) (EPA decision to deny discharge permit not reviewable under ESA exemption provision because no requisite final agency action when EPA decision still subject to reconsideration and adjudicatory hearing).

729. *See North Slope Borough v. Andrus*, 642 F.2d 589, 614 (D.C. Cir. 1980) (reversing injunction of lease sale of federal property with gas and oil potential); *Conservative Law Found. v. Andrus*, 623 F.2d 712, 719 (1st Cir. 1979) (unsuccessful challenge to federal sale of leases of tracts for oil and gas exploration).

730. *See supra* note 11 and accompanying text (discussing woundfin minnow holding up synfuel complex in Utah).

731. 16 U.S.C. § 1536(a)(2) (Supp. IV 1980).

732. *Id.* § 1536(g)(1). If the Energy Mobilization Board ever becomes a reality, it may be able to operate as an additional exemption agency, cutting the "red tape" of endangered species protection, depending on the terms of its charter. *See Grainey, Recent Federal Energy Legislation: Toward A National Energy Policy At Last?*, 12 ENVTL. L. 29, 70-71 (1981) (discussing and criticizing congressional proposal to create Energy Mobilization Board to expedite licensing of non-nuclear energy facilities).

733. *See In re Maine Clean Fuels, Inc.*, 310 A.2d 736, 740 (Me. 1973) (denying approval for development of petroleum refineries; general criteria include determination of effect on environment and threat to public's health, safety and welfare).

pollution, interstate pipelines, and alterations to navigable capacity.<sup>734</sup> All such permits were in hand or in progress when the FWS, in routine consultation, discovered nesting bald eagles nearby. The FWS then recommended to EPA that it deny the water pollution permit.<sup>735</sup> Shortly thereafter, the National Marine Fisheries Service chimed in with an opinion concluding that the refinery would adversely affect endangered whales.<sup>736</sup> The EPA then denied the permit on those bases. Pittston kept the permit proceedings open by requesting an adjudicatory hearing and at the same time sought an ESC exemption for its refinery.<sup>737</sup> A court then agreed with refinery opponents that the exemption procedure was unavailable until the administrative proceedings were final.<sup>738</sup>

At this point, Pittston faces a procedural labyrinth because if it takes the wrong route, the already long delay and large expense could be exacerbated and a definite decision postponed for years.<sup>739</sup> First, Pittston could abandon the administrative appeals over the pollution permit and seek an immediate exemption ruling from the ESC.<sup>740</sup> That is the best course of action if the conflict is evident and irresolvable, consultation has been completed in good faith, and Pittston has exhausted necessary administrative remedies. If, however, factual questions concerning the consequences for species exist, or if the permit denial is alternatively premised on other grounds, the company faces undesirable consequences, whatever path it chooses.

If Pittston pursues an appeal through EPA and then through the courts, long delays are likely and the company faces theoretical preclusion from the ESC procedure. The statute states only that the ninety-day ESC application period runs from the "completion of the consultation process; or, in the case of any agency action involving a permit or license applicant, not later than ninety days after the date on which the Federal agency concerned takes final agency action."<sup>741</sup> A literal rendering of this provision is that the ESC exemption must be sought within ninety days of the *agency* action, a requirement that cannot be met if Pittston seeks judicial review of that action. In that case, a more reasonable interpretation is that the agency action is not final until the court decides and an exemption can be sought within ninety days of a final judgment affirming the agency determination.

Assume that Pittston believes that its refinery will harm neither eagle nor whale, or that the prospective harm does not rise to the status of a section 7 violation. In other words, Pittston argues that the FWS has erred factually or

734. *Pittston Co. v. Endangered Species Comm.*, 14 Env't Rep. Cas. (BNA) 1257, 1258 (D.D.C. 1980).

735. *Id.* at 1259.

736. *Id.*

737. *Id.* Although the adjudicatory hearing before the EPA was pending, the endangered species review board initially determined that the section 7(a) exemption application was ripe for decision, but reversed its determination of ripeness after the plaintiff filed an action challenging the exemption proceeding prior to a *final* decision by the EPA.

738. *Id.* at 1260-61. The court relied upon legislative history evincing congressional intent that the exemption process be available only as a last resort, to be considered only after the applicant had been finally denied a permit or license. *Id.* at 1261-62.

739. Pittston still lacks the necessary clearances because it could not adduce adequate information of the impact of its operation on listed species. *Roosevelt Campobello Internat'l Park Comm'n v. EPA*, 684 F.2d 1041 (1st Cir. 1982).

740. The requested hearing was optional; if further proceedings are foreclosed, the agency action will be final and the ESC review process can begin.

741. 16 U.S.C. § 1536(g)(2) (Supp. IV 1980). The meaning of "final agency action" is determined in accordance with the Administrative Procedure Act, 5 U.S.C. § 703 (1976).

legally by finding adverse effects when none will occur or by concluding that section 7 will be violated in the absence of jeopardization or critical habitat modification. Assume further that Pittston chooses to forego judicial review of the EPA's permit denial and to seek an exemption from the ESC. The review board considering the application for an exemption<sup>742</sup> will not rule on the factual positions because the review board has power only to deny an exemption for lack of maturity or good faith.<sup>743</sup> It was given no power to reverse the consulting agency for legal or factual errors.<sup>744</sup>

It is conceivable, in such a case, that the board would find that no irreconcilable conflict exists. The matter would then be in limbo, because such action is considered final agency action;<sup>745</sup> the board cannot order the license granted, nor can it forward the dispute to the ESC.<sup>746</sup> If the ESC were to take up the question, it too would be in a quandary because the allegedly erroneous basis for the FWS opinion may remain on the record and the exemption criteria do not include factual or legal errors in the consultation process. If Pittston's allegation of error is correct, the consequent absence of a section 7 violation would of course tend to impel Committee members toward granting an exemption, but that decision would appear improper if such error were its sole basis.

If the board denies Pittston an exemption, there will be some difficulty in determining just what the reviewing court may consider. The decision under scrutiny is that of the ESC, not the FWS, and if the decision is sustainable on the ground that the statutory criteria were not met, review arguably ends at that point, precluding relief from the original erroneous FWS opinion. Although such an outcome is facially consistent with certain canons of administrative law, it should not prevail, because of its fundamental unreasonableness and lack of fairness. Even if the ESC cannot undo a faulty biological opinion, the court must necessarily have the power to do so. Simply because Congress did not foresee a charade such as this does not preclude finding that Congress would have wished to provide a remedy had it thought of the problem.

#### D. PRIVATE PROJECTS AND ACTIVITIES

*We strongly urge that the term "take" . . . be refined and modified so as not to preclude normal land management practices. At present it would be possible for a private landowner to be penalized . . . if these had an impact on a listed species.*

*1978 House ESA Hearings, at  
724 (William Hazleton, Forest  
Industry Environmental Council).*

742. 16 U.S.C. § 1536(2)(B) (Supp. IV 1980).

743. *See id.* § 1536(g)(5)-(7). If the review board determines that an irresolvable conflict does not exist or that requirements of good faith in consultation, biological assessment, and restraint from irreversible commitments were not met, it denies the application, and this constitutes final agency action. *Id.* If the board finds that an irresolvable conflict does exist, it prepares a report for the Committee, which makes a determination whether or not to grant an exemption within 90 days. *Id.* § 1536(h).

744. The review board is, however, under a duty to make a *full* review of the interagency consultation. *Id.* § 1536(g)(5).

745. *See id.* § 1536(g)(5).

746. *See id.* § 1536(g)(6), (7), 1536(h) (board forwards report to Committee for determination of exemption when it finds irrevocable conflict).

Federal permission or federal money was the trigger for ESA application to the private projects discussed above, but federal involvement is not always necessary before the Act bars or complicates private land uses. Recall the example of the farmer who wished to plow up possible black-footed ferret habitat; now assume that no federal agency permits or assists the private action. If the area is designated critical habitat, can the United States successfully sue to prevent its adverse modification? As no federal action is involved, section 7 of the ESA does not apply. This situation leaves only the questions of whether the private action constitutes a taking, whether the regulatory power of the United States extends to aid of species threatened by private practices on private lands, and, if these answers are affirmative, whether a court can and will enjoin the proposed plowing.

A court adopting the *Palila* rationale will rule that the action is an illegal taking if a causal nexus is shown, that the United States has power to prevent such an occurrence, and that an injunction is proper.<sup>747</sup> In some ways, the black-footed ferret presents an easier case than *Palila* because the effect on the listed species is more direct, and the challenged action is a change in the status quo, not the continuation of an ongoing program. In another way, however, it presents a more difficult case because the ferret, although now extremely rare, once had a wide range, and other black-footed ferrets exist elsewhere which will not be affected by the plowing. Section 9 does not require a determination of the degree of harm to the species: harming just one member is a violation.<sup>748</sup> The precedents and the equities favor an injunction against a future violation. Under section 7, the Supreme Court in *Hill* did not balance equities once a violation had been found,<sup>749</sup> and the *Palila* court followed suit in a section 9 case. Even if such balancing is proper, the ferret should still win. Its value is incalculable, the damage would be irreparable, and the existing land use could continue.

Assume that no critical habitat had been declared and that a private organization sued to enjoin the plowing. The Act provides for suits to enforce its provisions,<sup>750</sup> and standing has not been a problem in wildlife litigation.<sup>751</sup> Theoretically, the critical habitat designation or lack thereof should not affect the outcome because the claim is for taking, not for destruction of critical habitat, even though the taking consists of habitat modification. Practically, however, the lack of critical habitat designation could be fatal to plaintiff's case. The causal nexus between the action and its effect on the ferrets will be far more difficult to establish when there is no official imprimatur that the ferret lives there. Further, a court is less likely to enjoin otherwise permissible

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747. See *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985, 987-91, 995 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

748. See 16 U.S.C. § 1538(a) (1976).

749. *TVA v. Hill*, 437 U.S. 153, 194 (1978) (Congress spoke plainly; Court enforced law as written).

750. 16 U.S.C. § 1540(g) (1976) (provisions for person to commence civil suit on own behalf).

751. See *Animal Welfare Inst. v. Kreps*, 561 F.2d 1002, 1005-16 (D.C. Cir. 1977) (environmental groups have standing to challenge waiver of moratorium on importation of baby fur sealskins), *cert. denied*, 434 U.S. 1013 (1978); see also *Palila v. Hawaii Dep't of Land and Natural Resources*, 471 F. Supp. 985, 988 (D. Hawaii 1979) (plaintiff is finch-billed member of the Hawaiian Honeycreeper family, an endangered species), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

private conduct at the behest of private interlopers than it is in a suit brought by the United States. Nevertheless, if the presence of the species can be established, the current interpretation of "taking" demands an injunction against the plowing.<sup>752</sup>

For another example of the ways in which the ESA may affect private agricultural land use, consider the ESA question left open in *Cappaert v. United States*.<sup>753</sup> In that case, an endangered pupfish existed only in a pool that was hydrologically connected to the surrounding groundwater table.<sup>754</sup> Nearby ranchers drilled wells for irrigation that lowered the pool level and jeopardized the continued existence of the pupfish; the pool was located in a national monument that had been set aside for the preservation of the pupfish.<sup>755</sup> The Supreme Court ruled that reservation of the monument also reserved by implication a right to water in amounts sufficient for the welfare of the pupfish.<sup>756</sup> The Court did not reach any potential ESA questions.

Assume, however, that the species lives on private or state land and that reserved water rights do not intrude. The question is whether the ESA prohibits groundwater pumping that adversely affects the aquatic habitat of a listed species by lowering the water level in its only pool. Again, without federal involvement sufficient to invoke section 7, the answer must come from section 9. Again, the answer must be that the pumping is an enjoined taking. In this instance, the anomalous result is that the adjacent ranchers have no recourse whatsoever because no provision for exemption from section 9 exists absent a concurrent section 7 violation. Had a federal agency forbidden the pumping, the exemption procedure would have been available, although probably unavailing.

#### CONCLUSION

*We don't have to worry about endangered species; why we can't even get rid of the cockroach.*

Secretary of the Interior James G. Watt<sup>757</sup>

A central premise of the *Hill* opinion was that ESA interpretation cannot be "reasonable" in the usual judicial sense. Instead, the court functions to give effect to the still uncompromising congressional goal, despite conventional countervailing costs, values, and equities. In the subsequent reappraisal of endangered species protection, Congress affirmed the *Hill* approach, reenacted the substantive ESA provisions with knowledge of their potential stringency, and provided an escape mechanism for exceptional projects in the national

752. See *supra* text accompanying notes 355-86 (discussing availability of injunctive relief when harm certain and imminent).

753. 426 U.S. 128 (1976).

754. *Id.* at 133.

755. *Id.* at 132. The proclamation stated that the national monument was being set aside "for the preservation of the unusual features of scenic, scientific, and educational interests" and noted that the area contains a "remarkable underground pool." *Id.* The Court also relied on preambulatory statements pointing out that the underground pool contains a peculiar race of fish found nowhere else in the world and known to have survived for several million years. *Id.* at 132.

756. *Id.* at 141.

757. Letter from Cecil D. Andrus to solicit membership in the Democratic National Committee's Natural Resources Protection Fund (copy on file at the *Georgetown Law Journal*).

public interest. The 1978 Amendments make the administrative tasks of listing species and designating critical habitat more difficult, and they add layers to the decisionmaking process. Although these complications may retard endangered species protection in the short run, the legal position of precarious species has been strengthened by *Hill* and the congressional response to it in the long run.

It is irrelevant whether the priority the Act accorded listed species is good, bad, or indifferent. As the *Hill* Court forcefully held, that is a question for the political body, not for courts or agencies. All but the most ardent supporters of either economic development or wildlife will admit that the dilemmas posed are not amenable to absolute solutions. Wildlife, like soil productivity, trees, or water, is an important resource for economic as well as aesthetic reasons. Although the Tellico Dam may have been a pork-barrel boondoggle, other projects and programs are more essential to the national well-being than the continued existence of one of many similar little fishes. Where to draw the line is more a matter of wisdom and politics than of science or law. Congress is the proper organ to strike the balance, and it chose to weigh the balance heavily on the side of endangered species. The political debate over the wisdom of the choice will continue, but—barring future amendment or repeal of the Endangered Species Act—the legal guidelines are assuming concrete form.

Most of the foregoing examples of ways in which the presence of listed species may interfere with human land use are speculative: the anticipated judicial and administrative decisions have not yet been handed down. Many of the hypotheticals promise to be the subject of future litigation. The process likely will be slow and painful because action agencies often become attached to their creations, vehemently opposing any standards that require modification or abandonment. The wildlife agencies, whose actions are the key factor in endangered species protection, tend to be very cautious because whatever they do will be offensive to some and politically controversial. And courts, the penultimate arbiters of disputes between listed wildlife and human aims, may be chary of according full force and effect to an Act that so drastically impinges on traditional values.

But the handwriting is on the wall and the words are inscribed in the United States Code. The preservation of species facing extinction takes precedence over all other considerations until such time as the ESC or Congress declares otherwise.

Given the present and probable future numbers of listed species, the flexibility and uncertainties in the listing and designation processes, the degree of human commitment to either preservation or projects, and the nearly infinite number of instances in which conflicts can occur, matters surely are not as simple as the preceding sentence indicates. The ESC will grant exemptions. The FSW and the NMFS will refuse to list or to issue negative biological opinions. Environmental organizations will neglect to sue. Courts will seek equitable solutions in spite of *Hill*. Other perceived needs, notably that for energy production, will take precedence. Nevertheless, endangered species protection will be a significant influence on land use and related activities in the United States throughout the foreseeable future.

