JOURNAL OF LAND USE & ENVIRONMENTAL LAW

VOLUME 10 SPRING 1995 NUMBER 2

ALTERATION OF WILDLIFE HABITAT AS A PROHIBITED TAKING UNDER THE ENDANGERED SPECIES ACT

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I. INTRODUCTION

The survival of individual wild animals, as well as species of wildlife, is dependent upon habitat, which provides wildlife with food, shelter, protection (from human and animal predators), breeding sites, and sites for rearing and nesting their young. In order for a particular area or ecosystem to provide a suitable habitat for a particular species of wildlife, the area may have to contain certain types of geological features (e.g., caves, mountains, etc.), particular types of waterbodies, particular types of trees or plants, or other species of wildlife.[1] The destruction or alteration of wildlife habitat may deprive members of that wildlife species of food, shelter, protection, reproduction sites, or nesting sites, and cause the death of individual wild animals and, eventually, the extinction of an entire species of wildlife.[2] Habitat modification of a wildlife species may result in the eventual extinction of the species when members of the species are unable to adapt to changes in their habitat because they have "become intimately tied" to the conditions of their existing habitat "through evolution."[3]

Representative Sullivan, the floor manager of the House version of the Endangered Species Act of 1973,[4] stated during a legislative process that:

> For the most part, the principal threat to animals stems from the destruction of their habitat. The destruction may be intentional, as would be the case in clearing of fields and forests for development or resource extraction, or it may be unintentional, as in the case of the spread of pesticides beyond their target area. Whether it is intentional or not, however, the result is unfortunate for the species of animals that depend on that habitat, most of whom are already living on the edge of survival.[5]

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1. For example, some types of bird species may forage on insects, fruits, and seeds found only in particular types of trees in particular locations, *see* Palila v. Hawaii Dep't of Land & Natural Resources, 471 F. Supp. 985, 998-90 (D. Haw. 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981); Sierra Club v. Lyng, 694 F. Supp. 1260, 1265 (E.D. Tex. 1988), *aff'd in part and vacated in part sub. nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991), and also may be dependent upon the same types of trees for shelter, "reproduction requirements," and nesting sites. *See* Sierra Club v. Lyng, 694 F. Supp. at 1265; Palila v. Hawaii Dep't of Land & Natural Resources, 471 F. Supp. at 989.

2. *See* Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1075 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9thCir. 1988); Sierra Club v. Lyng, 694 F. Supp. at 1271-72.

3. *Palila*, 471 F. Supp. at 989 n.7. *See* Sierra Club v. Lyng, 694 F. Supp. at 1269 ("[T]he actions of man have taken an increasing toll on the survivability of various species, particular ly those which, due to their particular habits and lifestyles, are unable to adapt to a changing environment.").

4. 16 U.S.C. §§ 1531-44 (1988).

5. 119 CONG. REC. H30,162 (daily ed. Sept. 18, 1973).

The United States Supreme Court has noted that "in shaping the [Endangered Species] Act, Congress started from the finding that '[t]he two major causes of extinction are hunting and destruction of natural habitat.' . . . Of these twin threats, Congress was informed that the greatest was destruction of natural habitat."[6] The drafters of the Endangered Species Act of 1973:

> realized that the degradation of habitats posed one of the gravest threats to the continued existence of endangered and threatened species . . . . Indeed, the first stated purpose of the ESA is "to pro vide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved . . . ."[7]

The Endangered Species Act of 1973 contains several provisions that seek to protect and preserve the habitat of endangered species[8] and threatened species.[9] Section 5[10] of the Endangered Species Act grants the Secretaries of the Interior, Commerce and Agriculture authority to acquire land to preserve the habitat of protected species as part of conservation programs for endangered and threatened

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6. Tennessee Valley Auth. v. Hill, 437 U.S. 153, 179 (1978) (citation omitted).

7. Sweet Home Chapter v. Babbitt, 1 F.3d 1, 8 (D.C. Cir. 1993) (Mikva, C. J., concur ring) (quoting 16 U.S.C. § 1531(b) (1988)), *modified on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

8. The Endangered Species Act of 1973 defines "endangered species" to mean "any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this chapter would present an overwhelming and overriding risk to man." 16 U.S.C. § 1532(6) (1988). The term "species" is defined by the Act to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." 16 U.S.C. § 1532(16) (1988). Particular species of wildlife are designated as an endangered species pursuant to the procedures of section 4 of the Act. 16 U.S.C. § 1533 (1988). Species of wildlife that have been listed as endangered are set forth at 50 C.F.R. § 17.11 (1993).

9. "Threatened species" is defined by the Endangered Species Act to mean "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. § 1532(20) (1988). Particular species of wildlife are designated as threatened species pursuant to the procedures of section 4 of the Act. 16 U.S.C. § 1533 (1988). Species of wildlife that have been listed as threatened are set forth at 50 C.F.R. § 17.11 (1993).

Pursuant to 16 U.S.C. §§ 1532(15) & 1533(a)(2) (1988), the Fish and Wildlife Service (for the Secretary of the Interior) and the National Marine Fisheries Service (NMFS) (for the Secretary of Commerce) share responsibility for implementing and enforcing the provisions of the Endangered Species Act with respect to endangered and threatened species of fish and wildlife. *See* 50 C.F.R. §§ 17.2(b), 17.11 (1993). Endangered and threatened marine species under the jurisdiction of the NMFS are listed at 50 C.F.R. §§ 222.23(a), 227.4 (1993). NMFS regulations governing takings of protected terrestrial species under its jurisdiction are at 50 C.F.R. §§ 220.50-.53, 222.21-.28, and 227.11-.72 (1993). This article will analyze only Fish and Wildlife Service regulations governing the taking of terrestrial endangered and threatened species of fish and wildlife; NMFS regulations governing takings of endangered and threatened marine species will not be analyzed in this article.

10. 16 U.S.C. § 1534 (1988).

species of fish, wildlife and plants.[11] Section 7[12] of the Endangered Species Act protects endangered and threatened species habitat, by requiring each federal agency to "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in destruction or adverse modification of habitat of such species" which has been determined by the Secretary of the Interior or Commerce to be "critical."[13] Sections 9(a)(1)(B) and (C)[14] of the Endangered Species Act also make it illegal for any person to "take" any listed endangered species of fish or wildlife within the United States or the territorial sea of the United States or upon the high seas. This prohibition of takings of endangered species has been extended to threatened species of wildlife by Fish and Wildlife Service regulations.[15]

The Fish and Wildlife Service also adopted a regulation[16] specifying that modification or degradation of the habitat of a listed endangered or threatened species of wildlife constitutes, in certain circumstances, "harm" (and therefore a "take") in violation of the Endangered Species Act.[17] This regulation, however, leaves a number of questions unanswered regarding when habitat modification constitutes "harm" in violation of the Endangered Species Act.[18]

A disagreement has recently occurred between United States Courts of Appeals as to the validity of this Fish and Wildlife Service regulation providing that modification or destruction of wildlife habitat, in certain circumstances, can be a "harm" in violation of the Endangered Species Act. In 1988, the United States Court of Appeals for the Ninth Circuit held that this regulation "serves the overall purpose of the Act" and "is also consistent with the policy of Congress evidenced by the legislative history."[19] In 1994, however, a divided panel of the United States Court of Appeals for the District of Columbia invalidated the Fish and Wildlife Service regulation

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11. *See* Sweet Home Chapter v. Lujan, 806 F. Supp. 279, 283-84 (D.D.C. 1992), *aff'd sub nom.* Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *modified on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

12. 16 U.S.C. § 1536 (1988).

13. *Id.* at § 1536(a)(2). *See Babbitt*, 17 F.3d at 1467. *See also infra* notes 114-27 and accompanying text.

14. 16 U.S.C. §§ 1538(a)(1)(B)-(C) (1988).

15. 50 C.F.R. § 17.31(a) (1993). *See infra* notes 37-45 and accompanying text.

16. 50 C.F.R. § 17.3 (1993).

17. *See infra* notes 149-62 and accompanying text.

18. *See infra* notes 162-229 and accompanying text.

19. Palila v. Hawaii Dep't of Land & Natural Resources, 852 F.2d 1106, 1108 (9th Cir. 1988). *See infra* notes 207-58 and accompanying text.

defining "harm" to include habitat modification.[20] On January 6, 1995, the United States Supreme Court granted the federal government's petition for certiorari in this case to address the validity on its face of the Fish and Wildlife Service's regulation that makes significant habitat modification a prohibited taking under the Endangered Species Act.[21]

The question of whether under the Endangered Species Act a prohibited "taking" of an endangered or threatened species of wildlife can include the modification or destruction of a protected species' habitat is significant because the Act's taking prohibition applies to any person,[22] including an individual, a corporation, and an officer, employee or agent of federal, state and local governments,[23] and is enforced through civil penalties,[24] criminal penalties,[25] and injunctive relief.[26] If the Act's prohibition on the "taking" of listed endangered and threatened species applies to habitat modification in certain circumstances, the Act's taking prohibition will in many cases prohibit development of private land that serves as habitat for an endangered or threatened species of wildlife, unless the person either qualifies for an exemption from the Act's taking prohibition,[27] or such prohibition constitutes a taking of private property without just compensation in violation of the Fifth Amendment of the United States Constitution.[28]

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20. Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). *See infra* notes 322-461 and accompanying text. In 1993 this panel held, in a preenforcement challenge, that the Fish and Wildlife Service's regulation defining "harm" was not facially void for vagueness and was not invalid in violation of the Endangered Species Act. Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *modified on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859); *see infra* notes 261-320 and accompanying text. However, the panel granted a petition for rehearing and, based on Judge Stephen Williams changing his position, invalidated the Fish and Wildlife Service's definition of "harm" which included habitat modification. 17 F.3d at 1465, 1472.

Later in 1994, the divided panel, *per curiam*, denied the appellees' petition for rehearing, 30 F.3d 190 (D.C. Cir. 1994); the *en banc* United States Court of Appeals for the District of Columbia denied the appellees' suggestion for rehearing *en banc*. *Id.*

21. Babbitt v. Sweet Home Chapter, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). Oral arguments are expected to be scheduled for April 1995.

22. 16 U.S.C. § 1538(a)(1)(B)-(C) (1988).

23. The Endangered Species Act defines "person" to mean "an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States." 16 U.S.C. § 1532(13) (1988).

24. *Id.* at § 1540(a). *See infra* notes 90-98 and accompanying text.

25. 16 U.S.C. § 1540(b) (1988). *See infra* notes 90-98 and accompanying text.

26. 16 U.S.C. §§ 1540(e)(6), (g) (1988). *See infra* notes 99-113 and accompanying text.

27. *See infra* notes 50-85 and accompanying text.

28. *See* Lucas v. South Carolina Coastal Council, 112 S. Ct. 2886 (1992); Nollan v. California Coastal Comm'n, 483 U.S. 825 (1987); Christy v. Hodel, 857 F.2d 1324, 1334-35 (9th Cir. 1988),

This article will first analyze provisions of the Endangered Species Act that make it illegal for any person to "take" any endangered species of fish or wildlife, and the Fish and Wildlife Service regulations that make it illegal for any person to "take" any threatened species of wildlife. The article then analyzes exemptions under the Act and the Fish and Wildlife Service regulations from the general prohibitions on taking any endangered or threatened species of wildlife. Also, this section discusses the Act's enforcement of the taking prohibitions through civil penalties, criminal penalties, and injunctive relief.

After comparing the protection of wildlife habitat provided by section 7 of the Endangered Species Act with habitat protection provided by the Act's taking prohibitions, this article analyzes the Fish and Wildlife Service regulations that define when a "take" occurs. This section of the article focuses particularly on when modification or destruction of a listed endangered or threatened species' habitat constitutes a "take." This section of the article identifies situations where uncertainty exists in determining when modification or alteration of a wildlife habitat constitutes a "take" in violation of these regulations; also, various interpretations of the regulations are suggested. These suggested interpretations may be adopted by the Fish and Wildlife Service as formal amendments to their regulations. This adoption would give more guidance to courts and persons subject to regulation under the Endangered Species Act and further the Act's purposes.[29]

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cert. denied, 490 U.S. 1114 (1989). *See also* Patricia A. Hageman, Comment, *Fifth Amendment Takings Issues Raised by Section 9 of the Endangered Species Act*, 9 J. LAND USE & ENVTL. L. 375 (1994); *see also* Michelle Desiderio, *The ESA: Facing Hard Truths and Advocating Responsible Reform*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 37, 80-81. This article will not analyze the issue of when a prohibition on land development or habitat modification, under the Endangered Species Act's "takings" provision, constitutes a taking of private property without just compensation in violation of the Fifth Amendment of the United States Constitution.

29. An alternative to adopting formal amendments to Fish and Wildlife Service regula tions would be pre-land development rulings by the Fish and Wildlife Service as to whether a specific use or development of a particular parcel of private or public land would "take" a listed endangered or threatened species of wildlife by destroying or modifying wildlife habitat. *See* Steven P. Quarles et al., *The Unsettled Law of ESA Takings*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 10, 61. There are "several practicable difficulties with this approach." *Id.* Consequently, formal amendment of the Fish and Wildlife Service regulation defining when a "take" occurs under the Endangered Species Act, through notice-and-comment procedures of the Administrative Procedure Act, 5 U.S.C. § 553 (1988), is a preferable approach for providing the public and the courts with guidance as to when modification of wildlife habitat constitutes a "take" in violation of the Endangered Species Act. Such guidance might be provided by the Fish and Wildlife Service stating "informally that it will not prosecute some types of land use activities as takings." Quarles et al., *supra*, at 61.

Finally, this article analyzes the opinions of the Ninth Circuit and District of Columbia Courts of Appeal that have addressed the validity of the Fish and Wildlife Service's regulation defining when "harm" (and therefore a "take") occurs under the Endangered Species Act. The article concludes that the Fish and Wildlife Service regulation defining "harm" is not facially void for vagueness in violation of the Due Process Clause of the Fifth Amendment of the United States Constitution, and the United States Supreme Court should uphold the Fish and Wildlife Service regulation as a reasonable agency interpretation of an ambiguous provision of the Endangered Species Act, using the standard of *Chevron U.S.A., Inc. v. Natural Resources Defense Council.*[30]

II. PROHIBITIONS ON TAKINGS OF ENDANGERED AND THREATENED SPECIES

Except as provided in two provisions of the Endangered Species Act,[31] section 9(a)(1)(B)[32] of the Endangered Species Act of 1973 makes it unlawful for any person,[33] within the United States or the territorial sea of the United States, to take endangered species[34] of fish or wildlife listed pursuant to section 4[35] of the Act.[36] Section 9 only

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30. 467 U.S. 837 (1984).

31. 16 U.S.C. §§ 1535(g)(2), 1539 (1988). *See infra* notes 50-85 and accompanying text.

32. 16 U.S.C. § 1538(a)(1)(B) (1988).

33. "Person" is defined under the Act by 16 U.S.C. § 1532(13) (1988). *See supra* note 23. American Indians are within the Act's definition of "person." United States v. Billie, 667 F. Supp. 1485, 1491 (S.D. Fla. 1987). Enforcement of the Act's taking prohibition against a state, a state agency, and a state employee does not violate either the Tenth or Eleventh Amendment of the United States Constitution. Palila v. Hawaii Dep't of Land & Natural Resources, 471 F. Supp. 985 (D. Haw. 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

34. "Endangered species" is defined under the Act by 16 U.S.C. § 1532(6) (1988). *See supra* note 8.

35. 16 U.S.C. § 1533 (1988).

36. Section 9(1)(C) of the Endangered Species Act, 16 U.S.C. § 1538(a)(1)(C) (1988), also makes it unlawful for any person subject to the jurisdiction of the United States to take upon the high seas any endangered species of fish or wildlife listed under section 4 of the Act, *id.* at § 1533 (1988), except as provided in 16 U.S.C. §§ 1535(g)(2) & 1539.

The Endangered Species Act, however, does not make it illegal for a person to "take" an endangered plant species that has been listed under section 4 of the Act. Section 9(a)(2)(B), 16 U.S.C. § 1538(a)(2)(B) (1988), of the Act, as implemented by Fish and Wildlife Service regulations, 50 C.F.R. § 17.61(c)(1) (1993), however, makes it illegal, except as provided in 16 U.S.C. § 1535(g)(2) or 16 U.S.C. § 1539, for any person subject to the jurisdiction of the United States, to remove and reduce to possession any listed endangered species of plants:

> from areas under Federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law.

This provision makes it illegal to remove an endangered plant species from private land only if a person knowingly violates *state law* or

prohibits the taking of endangered species of fish and wildlife, not the taking of threatened species of fish and wildlife. The Fish and Wildlife Service, however, has adopted a regulation[37] that provides, subject to some exceptions, that it is unlawful for any person to take any listed threatened species of wildlife.

The Fish and Wildlife Service adopted this regulation on the basis of authority provided by section 4(d) of the Endangered Species Act, which provides in pertinent part:

> Whenever any species is listed as a threatened species . . ., the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species. The Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 1538(a)(1) of this title, in the case of fish or wildlife . . . .[38]

The Fish and Wildlife Service through regulation[39] "established a regime in which the prohibitions established for endangered species are extended automatically to all threatened species by a blanket rule and then withdrawn as appropriate by special rule for particular species and by permit in particular situations."[40] This regulation was challenged in *Sweet Home Chapter v. Babbitt*[41] (*Sweet Home I*), on two grounds: first, that section 4(d) of the Endangered Species Act requires the Fish and Wildlife Service to extend the Act's endangered species

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violates a state trespass law in doing so. Subject to some exceptions, the prohibition on removing and reducing to possession endangered plants from an area under Federal jurisdiction, has been extended to threatened plants. 50 C.F.R. § 17.71(a) (1993). This article will only analyze the Endangered Species Act's prohibitions on the taking of endangered and threatened species of fish and wildlife.

37. 50 C.F.R. § 17.31(a) (1993).

38. 16 U.S.C. § 1533(d) (1988).

39. 50 C.F.R. § 17.31(a) (1993).

40. Sweet Home Chapter v. Babbitt, 1 F.3d 1, 5 (D.C. Cir. 1993), *modified on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). The Fish and Wildlife Service regulation generally prohibits the taking of threatened species of wildlife, "except as provided in subpart A of this part, or in a permit issued under . . . subpart [D]." 50 C.F.R. § 17.31(a) (1993). The Fish and Wildlife Service "actually issued special rules for a substantial number of the fish and wildlife species listed as threatened." *See* 50 C.F.R. §§ 17.40-48. Sweet Home Chapter v. Babbitt, 1 F.3d at 7. In addition, Fish and Wildlife Service permits under 50 C.F.R. § 17.32 authorizing the taking of threatened species of wildlife "are more readily available" than are permits under 50 C.F.R. §§ 17.22-.23 authorizing the taking of endangered species of wildlife. Sweet Home Chapter v. Babbitt, 1 F.3d at 7. This article will not further discuss these special rules, 50 C.F.R. §§ 17.40-.48 (1993), which authorize certain takings of specific threatened species.

41. 1 F.3d 1 (D.C. Cir. 1993), *modified on petition for reh'g*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

prohibitions to threatened species only on a species-by-species basis; and, second, that the Fish and Wildlife Service can extend the Act's endangered species prohibitions to a threatened species of wildlife only after making a specific and formal finding and explanation that such an extension was "necessary and advisable" within the meaning of the first sentence of section 4(d) of the Act.[42] A panel of the United States Court of Appeals for the District of Columbia rejected both of these arguments in *Sweet Home I.* This panel upheld the Fish and Wildlife Service's regulation generally prohibiting the taking of all listed threatened species of wildlife "as a reasonable interpretation of the statute," "in light of the substantial deference" the court owes the agency under the principles of *Chevron USA, Inc. v. Natural Resources Defense Council, Inc.*[43] The court stated that "[t]he statute does not unambiguously compel the agency to expand regulatory protection for threatened species only by promulgating regulations that are specific to individual species."[44] The panel also held that the Fish and Wildlife Service was not required to make a "necessary and advisable" finding before promulgating the regulation on the grounds that "the two sentences of § 1533(d) represent separate grants of authority. The second sentence gives the [Fish and Wildlife Service] discretion to apply any or all of the § 1538(a)(1) prohibitions to threatened species without obligating it to support such actions with findings of necessity."[45]

A. *Definition of "Take" Under the Endangered Species Act*

The Endangered Species Act of 1973 defines "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[46] This broad

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42. *See* Sweet Home Chapter v. Babbitt, 1 F.3d at 5-6.

43. 467 U.S. 837 (1984). *See infra* notes 238-40, 392-96, 453 and accompanying text.

44. Sweet Home Chapter v. Babbitt, 1 F.3d at 6. The panel revi ewed the singular vs. plural issue in 16 U.S.C. § 1533(d) (1988), and legislative history of the Endangered Species Act, and concluded that "the possible conflict" between the Senate and House Reports on the Endangered Species Act and "apparent inconsistency within [16 U.S.C. § 1533(d)] itself as to singular and plural, shows the perils of attempting to use ambiguous legislative history to clarify ambiguous words within statutes." 1 F.3d at 6.

45. 1 F.3d at 7-8. The panel stated that "[o]nly the first sentence of § 1533(d) contains the 'necessary and advisable' language and mandates formal individualized findings. This sentence requires the [Fish and Wildlife Service] to issue whatever other regulations are 'necessary and advisable,' including regulations that impose protective measures *beyond* those contained in § 1538(a)(1)." *Id.* at 8.

46. 16 U.S.C. § 1532(19) (1988). Fish and Wildlife Service regulations also define "take" in this manner. 50 C.F.R. § 10.12 (1993). A court will engage in *de novo* judicial review of a claim that certain conduct constitutes a "take" in violation of section 9 of the Endangered Species Act when the takings claim does not involve an examination of the consultation process between a federal agency and the Fish and Wildlife Service under section 7 of the Endangered Species

definition seemingly does not require that an animal be killed. The Act's definition of "take" also does not, on its face, require that a person know, or have reason to know, that their conduct will "take" a listed endangered or threatened species of wildlife. Although the Act does not define any of the terms included within the Act's definition of "take," the Fish and Wildlife Service has promulgated regulations[47] defining the terms "harass" and "harm" in the Act's definition of "take." These Fish and Wildlife Service regulations define "harm" to include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[48] The Service's definitions of "harm" and "harass" are analyzed later in this article[49] following analysis of exemptions from the Act's takings prohibitions, enforcement of the Act's takings prohibitions, and comparison of habitat protection under sections 7 and 9 of the Act.

B. *Exemptions from the Act's Takings Prohibitions*

"Congress has drawn several extraordinarily narrow exceptions to the Act's prohibitions."[50] Although section 9(a)(1)[51] contains explicit exceptions to the general prohibitions on taking endangered species of fish or wildlife under 16 U.S.C. §§ 1535(g)(2) and 1539, Fish and Wildlife Service regulations and other provisions of the Act contain additional exceptions.[52] There are several provisions of the Act which

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Act, 16 U.S.C. § 1536 (1988). *See* Sierra Club v. Yeutter, 926 F.2d 429, 438 (5th Cir. 1991) (dictum).

47. 50 C.F.R. § 17.3 (1993).

48. *Id.*

49. *See infra* notes 128-229 and accompanying text.

50. United States v. Billie, 667 F. Supp. 1485, 1488 (S.D. Fla. 1987).

51. 16 U.S.C. § 1538(a)(1) (1988).

52. Fish and Wildlife Service regulations provide that notwithstanding the general prohibitions on the takings of endangered and threatened species, "any person may take endangered [or threatened wildlife] in defense of his own life or the lives of others." 50 C.F.R. §§ 17.21(c)(2), .31(a) (1993). Fish and Wildlife Service regulations also authorize permits for takings of endangered and threatened species of wildlife "to prevent undue economic hardship." 50 C.F.R. §§ 17.23, .32(a) (1993). These regulations arguably are authorized by 16 U.S.C. § 1540(f) (1988), which authorizes the Secretary of the Interior "to promulgate such regulations as may be appropriate to enforce" the Endangered Species Act. Similarly, a person who acts "on a good faith belief that he was acting to protect himself or herself, a member of his or her family, or any other individual from bodily harm, from any endangered or threatened species" is exempt from civil penalties, 16 U.S.C. § 1540(a)(3) (1988), and criminal penalties, *id.* § 1540(b)(3), for illegally taking an endangered or threatened species of fish or wildlife. Fish and Wildlife Service special rules, 50 C.F.R. §§ 17.40-.48 (1993), authorize takings of specific threatened species under certain circumstances. *See supra* note 40.

In addition, the Secretary of the Interior's authority to "issue such regulations as he deems necessary and advisable to provide for the conservation of" listed threatened species, 16 U.S.C. § 1533(d) (1988), and the Act's definition of "conservation"—which "in the extraordinary case

may exempt a person, engaging in land development activities that modify or destroy wildlife habitat, from the Act's prohibitions on takings.

First, the Secretary of the Interior may permit a taking of wildlife, otherwise prohibited by section 9(a)(1)(B)[53] of the Act, "if such taking is incidental to, and not [for] the purpose of, the carrying out of an otherwise lawful activity."[54] To obtain an incidental takings permit, a

where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking," *id.* § 1532(3)—permit the secretary to issue regulations authorizing the taking of a threatened species if he has determined that "population pressures within . . . [the animal's] ecosystem cannot otherwise be relieved." Sierra Club v. Clark, 755 F.2d 608, 613 (8th Cir. 1985) (dictum). *See* Fund for Animals, Inc. v. Turner, No. CIV. A. 91-2201 (MB), 1991 WL 206232 (D.D.C. Sept. 27, 1991); Note, *The Taking of Threatened Species Under the Endangered Species Act: Fund for Animals v. Turner*, 30 IDAHO L. REV. 109 (1993).

Under section 10(e), 16 U.S.C. § 1539(e) (1988), of the Endangered Species Act, any Indian, Aleut, or Eskimo who is an Alaskan Native residing in Alaska, "and any non-native permanent resident of an Alaskan native village," is not subject to the Endangered Species Act's prohibitions on the taking of endangered or threatened species, "if such taking is primarily for subsistence purposes," *id.* § 1539(e)(1), and is not "accomplished in a wasteful manner." *Id.* § 1539(e)(2). This exemption does "not apply to any non-native resident of an Alaskan native village found by the Secretary to be not primarily dependent upon the taking of fish and wildlife for consumption or for the creation and sale of authentic native articles of handicrafts and clothing." *Id.* § 1539(e)(1). The Secretary of the Interior or Commerce may regulate such subsistence takings wherever the Secretary determines "that such taking materially and negatively affects the threatened or endangered species." *Id.* at § 1539(e)(4). *See* 50 C.F.R. § 17.5 (1993). While one court held that the Act's prohibitions on takings are not applicable to other Indians who take endangered or threatened species on an Indian reservation for non-commercial purposes pursuant to treaty rights, United States v. Dion, 752 F.2d 1261, 1270 (8th Cir. 1985) (en banc), *rev'd on other grounds*, 476 U.S. 734 (1986), another court has held that Indians are exempt from the Act's prohibition on takings only to the extent provided in 16 U.S.C. § 1539(e). United States v. Billie, 667 F. Supp. 1485 (S.D. Fla. 1987).

Section 10(a)(1)(A), 16 U.S.C. § 1539(a)(1)(A) (1988), of the Endangered Species Act authorizes the Secretary of the Interior or Commerce to issue permits authorizing otherwise prohibited takings of endangered or threatened species of wildlife "for scientific purposes or to enhance the propagation or survival of the affected species, including, but not limited to, acts necessary for the establishment and maintenance of experimental populations pursuant to [16 U.S.C. § 1539(j) (1988)]." *See* 50 C.F.R. §§ 17.22(a), .32(a) (1993).

Fish and Wildlife Service regulations authorize certain federal and state employees and agents, when acting within the scope of their official duties, to take endangered and threatened species without a permit, "to aid a sick, injured, or orphaned specimen," to "dispose of a dead specimen," to "[s]alvage a dead specimen which may be useful for scientific study," or to "remove specimens which pose a demonstrable but nonimmediate threat to human safety." 50 C.F.R. §§ 17.21(c)(3), .21(c)(4), .31(a) (1993). In addition, qualified employees or agents of a state conservation agency that have a "Cooperative Agreement with the Fish and Wildlife Service in accordance with section 6(c) [16 U.S.C. § 1535(c) (1988)] of the Act," are authorized to take endangered or threatened species under the agreement for conservation purposes. 50 C.F.R. §§ 17.21(c)(5), .31(b) (1993). These regulations apparently are based upon authority con ferred on the Secretary of the Interior under 16 U.S.C. § 1540(f) (1994) to promulgate regula tions needed to enforce the Act.

53. 16 U.S.C. § 1538(a)(1)(B) (1994).

54. *Id.* § 1539(a)(1)(B). Fish and Wildlife Service regulations regarding the permits for endangered species of wildlife are at 50 C.F.R. § 17.22(b) (1993). The Fish and Wildlife Service

person must submit a habitat conservation plan (HCP) to the Fish and Wildlife Service that will minimize and mitigate the impacts of such incidental taking to the maximum extent practicable. The Fish and Wildlife Service must also find that "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."[55] Although a section 10 incidental takings permit may allow land development to modify or destroy wildlife habitat, development of an HCP can be expensive, complicated and time-consuming.[56]

Notwithstanding the Act's prohibitions against taking endangered and threatened species of wildlife, any taking that complies with the specific terms and conditions of a written statement under section 7(b)(4)(C)(iv)[57] is not "a prohibited taking."[58] The Fish and Wildlife Service must provide a written statement to a federal agency when the Service, after consultation with the agency pursuant to section 7(a)(2)[59] of the Act:

> concludes that—
> (A) the agency action will not violate such subsection, or offers reasonable and prudent alternatives which the Secretary believes would not violate such subsection;
> (B) the taking of an endangered species or a threatened species incidental to the agency action would not violate such subsection; and

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has adopted regulations authorizing permits for incidental taking of threatened species of wildlife. 50 C.F.R. § 17.32(b) (1993).

55. 16 U.S.C. § 1539(a)(2)(B)(iv) (1988). "Section 10(a) provides procedural means by which to improve the trade-off between protecting endangered species and permitting normal development. Firms whose activities might incidentally 'take' members of an endangered species can get *advanced* protection from legal liability, but only if they convince the Secretary that the plan uses the maximum devices possible to mitigate and minimize species loss, and that the resulting losses will not unduly harm the species. *See* § 10(a)(2)(B)(ii) & (iv), 16 U.S.C. § 1539(a)(2)(B)(ii) & (iv)." Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1468 (D.C. Cir. 1994) (*Sweet Home II*), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). The majority in *Sweet Home II* concluded that an "incidental taking" for which a permit can be issued under section 10(a)(1)(B) of the Act does not include "significant habitat modification injurious to wildlife." *Id. See infra* notes 357-63 and accompanying text. The dissent in *Sweet Home II* argued that an "incidental taking" under section 10(a)(1)(B) can include habitat modification that constitutes a "take" under 50 C.F.R. § 17.3. 17 F.3d at 1477 (Mikva, C.J., dissenting). *See infra* notes 428-31 and accompanying text.

56. *See* Robert D. Thornton, *The Search for a Conservation Planning Paradigm: Section 10 of the ESA*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 21 [hereinafter Thornton, *Conservation Planning Paradigm*]; Robert D. Thornton, *Takings Under Endangered Species Act Section 9*, 4 NAT. RESOURCES & ENV'T, Spring 1990, at 7, 9, 50 [hereinafter Thornton, *Takings*].

Habitat conservation plans for section 10(a) incidental take permits can cover "large tracts of land. . . . The plan to protect the California gnatcatcher, for example, covers 3.8 million acres." Sweet Home Chapter v. Babbitt, 30 F.3d 190, 192 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

57. 16 U.S.C. § 1536(b)(4)(C)(iv) (1988).

58. *Id.* at § 1536(o)(2).

59. *Id.* at § 1536(a)(2). *See infra* notes 114-27, 340-56 and accompanying text.

> (C) if an endangered or threatened species of a marine mammal is involved, the taking is authorized pursuant to [16 U.S.C. § 1371(a)(5)].[60]

The statement must specify the terms and conditions that the federal agency, applicant, or both, must comply with to implement specified reasonably prudent measures, minimizing the incidental taking. The statement must also adopt necessary measures to comply with 16 U.S.C. § 1371(a)(5) regarding marine mammals.[61]

This "exemption," however, can only be triggered by a section 7 consultation. Conversely, a section 7 consultation requires some federal agency action. Thus, before a private landowner can take a listed species under section 7, there must be a "nexus between the proposed taking and a federal agency action."[62] This nexus only exists if the private landowner's taking results from an "action authorized, funded, or carried out" by a federal agency.[63] Furthermore, this exemption does not apply to a taking, resulting from an existing physical condition, that is the subject of an incidental taking statement under section 7(b)(4) of the Act.[64]

To qualify for this exemption, a federal "agency must obtain an incidental taking statement before it takes the protected species."[65] A Fish and Wildlife Service statement "does not retroactively excuse the takings that occurred before the Secretary [of the Interior] issued the statement."[66] However, if a federal agency can show that it subsequently obtained authorization from the Fish and Wildlife Service and complied with the requirements of a section 7(b)(4) incidental taking statement, a court should lift an injunction against the agency action constituting a taking under the Endangered Species Act.[67]

When federal agency action or private action is authorized or funded by a federal agency,[68] section 7(o)(1) provides an alternate method of exempting land development activities.[69] Section 7(o)(1) provides that, notwithstanding the Act's prohibitions, any exempt

60. 16 U.S.C. § 1536(b)(4) (1988).

61. *Id.* § 1536(b)(4)(C). Regulations implementing this exemption are at 50 C.F.R. § 402.14(i) (1993).

62. Thornton, *Takings*, *supra* note 56, at 8.

63. 16 U.S.C. § 1536(a)(2) (1988). *See* Deborah L. Freeman, *Reinitiation of ESA § 7 Consultations over Existing Projects*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 17, 17-18; *see also infra* notes 118-20 and accompanying text.

64. *See* Swan View Coalition, Inc. v. Turner, 824 F. Supp. 923, 937 (D. Mont. 1992).

65. Defenders of Wildlife v. EPA, 882 F.2d 1294, 1301 (8th Cir. 1989).

66. *Id.*

67. *Id.*

68. *See supra* notes 62-63 and accompanying text; *see also infra* notes 114-27, 340-56 and accompanying text.

69. 16 U.S.C. § 1536(o)(1) (1988).

action under section 7(h)[70] of the Act "shall not be considered to be a taking of any endangered or threatened species with respect to any activity which is necessary to carry out such action."[71] The Endangered Species Committee (the so-called "God Squad"[72]) is required to issue exemptions under 7(h) if it makes determinations that: "there are no reasonable and prudent alternatives to the agency action"; the action's benefits "clearly outweigh" the benefits of alternative courses of action "consistent with conserving the species or its critical habitat, and such action is in the public interest"; and the action is regionally or nationally significant.[73] An additional finding that the Committee must make in order to be required to issue a section 7(h) exemption is that the action "establishes such reasonable mitigation and enhancement measures . . . as are necessary and appropriate to minimize the adverse effects of the agency action upon the endangered species, threatened species, or critical habitat concerned."[74] The Committee, however, has granted only a few exemptions under section 7(h).[75]

In states that are parties to cooperative agreements under section 6(c)[76] of the Endangered Species Act, land development modifying wildlife habitat may be exempted, under sections 4(d) and 6(g)(2)(A),[77] from the Act's takings prohibitions. Where the habitat

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70. *Id.* § 1536(h).

71. *Id.* § 1536(o)(1).

72. Wm. Robert Irvin, *The Endangered Species Act: Keeping Every Cog and Wheel*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 36, 39.

73. *Id.* § 1536(h)(1)(A). Section 7(p), 16 U.S.C. § 1536(p) (1988), authorizes the President, when acting under the Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121, to make the determinations required by sections 7(g) and (h), 16 U.S.C. § 1536(g) & (h) (1988), for any project repairing or replacing a public facility in a designated major disaster area, "which the President determines (1) is necessary to prevent the recurrence of such a natural disaster and to reduce the potential loss of human life, and (2) to involve an emergency situation which does not allow the ordinary procedures of [section 7] to be followed." The Committee is required to accept the President's determinations under section 7(p). 16 U.S.C. § 1536(p) (1988).

74. *Id.* § 1536(h)(1)(B). Regulations governing issuance of exemptions by the Endangered Species Committee are at 50 C.F.R. §§ 450.01-453.06 (1993).

Section 7(j), 16 U.S.C. § 1536(j) (1988), alternatively provides that "[n]otwithstanding any other provision of [the Endangered Species Act], the Committee shall grant an exemption for any agency action if the Secretary of Defense finds that such exemption is necessary for reasons of national security." *See* 50 C.F.R. § 453.03(d) (1993).

Section 7(i), 16 U.S.C. § 1536(i) (1988), prohibits the Committee "from considering for exemption any application" for proposed agency action if the Secretary of State, after following prescribed procedures, certifies in writing to the Committee that the granting of the exemption and the implementation of the action would violate an international treaty or commitment of the United States.

75. As of the summer of 1993, the Committee had met only three times during the nearly 15 years of section 7(h)'s existence. Irvin, *supra* note 72, at 36, 40.

76. 16 U.S.C. § 1535(c) (1988).

77. *Id.* §§ 1533(d), 1535(g)(2)(A).

modification is not an unlawful taking of an endangered or threatened species under state law, the exemption may be nullified by section 6(f)[78] of the Act. Section 6(g)(2)(A) provides that prohibitions against the taking of endangered and threatened species:

> shall not apply with respect to the taking of any resident endan gered species or threatened species (other than species listed in Appendix I to the Convention [on International Trade in Endan gered Species of Wild Fauna and Flora, signed on March 3, 1973, and the appendices thereto] or otherwise specifically covered by any other treaty or Federal law) within any State—
> (A) which is then a party to a cooperative agreement with the Secretary [of the Interior] pursuant to subsection (c) of this section (except to the extent that the taking of any such species is contrary to the law of such State) . . . .[79]

Section 4(d) of the Act provides that Fish and Wildlife Service regulations, regarding the taking of threatened resident species of fish or wildlife, apply in any state that is party to a cooperative agreement under section 1535(c) only to the extent that such regulations are incorporated into state law.[80] Such cooperative agreements can be entered into by the Fish and Wildlife Service and a state "which establishes and maintains an adequate and active program for the conservation of endangered species and threatened species."[81]

Section 6(f) of the Act provides, however, that state laws or regulations governing the taking of endangered or threatened species may be more restrictive than section 6(f) or the accompanying regulations, but may not be less restrictive.[82] Furthermore, *Swan View Coalition, Inc. v. Turner*[83] held that section 6(f) of the Act means that state takings provisions for a member of a section 6(c) cooperative agreement are preempted when the state's definition of take does not include "harm" and "significant habitat modification." The court in *Swan View Coalition* consequently held that the Endangered Species Act's "take" prohibitions, which include "harm" and "significant habitat modification," were applicable in a state that is party to a section 6(c)

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78. *Id.* § 1535(f).
79. *Id.* § 1535(g)(2)(A).
80. *Id.* § 1533(d). *See* Swan View Coalition, Inc. v. Turner, 824 F. Supp. 923, 938 (D. Mont. 1992).
81. 16 U.S.C. § 1535(c)(1) (1988). A state which has entered into such a cooperative agreement is eligible for federal assistance covering up to 90% of the estimated program cost stated in the agreement. *Id.* § 1535(d).
82. *Id.* § 1535(f). Any less restrictive state law is preempted by section 6(f) of the Act. *See* United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. 1126, 1134 (E.D. Cal. 1992); Swan View Coalition, Inc. v. Turner, 824 F. Supp. 923, 938 (D. Mont. 1992).
83. 824 F. Supp. at 938.

cooperative agreement but that has a less restrictive state takings prohibition.[84]

This holding in *Swan View Coalition* means that section 6(f) of the Endangered Species Act nullifies any exemption from the Act's takings prohibitions provided under section 6(g)(2)(A) or section 4(d), because *Swan View Coalition*'s interpretation of section 6(f) requires that a state's definition of "take" mirror the definition of "take" under the Endangered Species Act and Fish and Wildlife Service regulations. If section 6(f) requires a state's taking law to be the same as federal takings prohibitions, under the Endangered Species Act, neither section 6(g)(2) nor section 4(d) of the Act can make the federal prohibitions regarding taking endangered or threatened species through "significant habitat modification" inapplicable in a cooperative agreement state.[85]

C. *Enforcement of the Prohibitions on Takings*

The Endangered Species Act enforces its prohibitions on the takings of endangered and threatened species through civil penalties, criminal penalties, and injunctive relief.[86] "The Endangered Species Act does not expressly condition the enforcement of the prohibition on taking a protected species to takings occurring after the agency adopts a recovery plan, identifies critical habitat or issues protective regulations."[87] Furthermore, completion of an environmental impact statement, in compliance with section 102(2)(C)[88] of the National Environmental Policy Act of 1969, is not a prerequisite to enforcement of the Endangered Species Act's prohibitions on takings.[89]

Any person who knowingly violates the Endangered Species Act's prohibitions regarding the taking of an endangered species, or any permits or implementing regulations issued under the Act, is subject a civil penalty of up to $25,000 for each violation[90] and criminal penalties of a fine, imprisonment, or both.[91] Any person who

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84. *Id.*

85. Furthermore, a person's state water law rights do not exempt a person from the Endangered Species Act's prohibition on takings. United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. at 1134.

86. *See* Eileen Sobeck, *Enforcement of the Endangered Species Act*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 30.

87. United States v. Glenn-Colusa Irriga tion Dist., 788 F. Supp. at 1134-35.

88. 42 U.S.C. § 4332(C) (1988).

89. United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. at 1135.

90. 16 U.S.C. § 1540(a)(1) (1988).

91. *Id.* § 1540(b)(1). The 1984 Sentencing Reform Act and the 1987 Criminal Fines Improvement Act, 18 U.S.C. §§ 3559(a)(6), 3571(b), (e) (1988 & Supp. 1993), increased the maxi-

knowingly violates the Fish and Wildlife Service regulations[92] prohibiting the taking of a threatened species of fish or wildlife is subject to assessment of a civil penalty by the Secretary of the Interior or Commerce of up to $12,000 for each violation[93] and criminal penalties of a fine or imprisonment.[94] An individual could escape civil or criminal penalties by demonstrating "a good faith belief that he was acting to protect himself or herself, a member of his or her family, or any other individual from bodily harm, from any endangered or threatened species."[95]

The Endangered Species Act does not specify whether "knowingly" violating the prohibitions under the Act and Fish and Wildlife Service regulations requires actual knowledge—at the time of the taking—that the conduct constituted a prohibited taking under the Act. Several courts have held, however, that a person only has to act with a "general intent" to "knowingly" violate the Act's prohibitions on takings.[96] Under this approach, a person "knowingly" takes a protected species, for purposes of the Act's criminal penalty provisions, if the person's actions were voluntary and intentional and not due to mistake or accident.[97] To "knowingly" violate the Act's takings prohibitions the person does not have to know the particular species or subspecies of the animal taken, know that the species taken was listed under the Act as endangered or threatened, or know that the Act applied to the lands where the taking occurred.[98]

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mum criminal penalties for each violation under the Endangered Species Act, to a $100,000 fine, one year imprisonment, or both, for an individual, and to a $200,000 fine for a corporation.

92. 50 C.F.R. § 17.31(a) (1993).

93. 16 U.S.C. § 1540(a)(1) (1988).

94. *Id.* § 1540(b)(1). *See supra* note 91.

95. *Id.* §§ 1540(a)(3), (b)(3).

96. United States v. Billie, 667 F. Supp. 1485, 1493 (S.D. Fla. 1987); United States v. St. Onge, 676 F. Supp. 1044, 1045 (D. Mont. 1988).

97. *Billie*, 667 F. Supp. at 1492.

98. *Id.* at 1492-94. The court in United States v. St. Onge, 676 F. Supp. 1044 (D. Mont. 1988), concluded that the interpretation of the Act in *United States v. Billie* was "supported by the legislative history," *id.* at 1045, and stated that:

> The critical issue is whether the act was done knowingly, not whether the defendant recognized what he was shooting. The scienter element applies to the act of taking; thus defendant could only claim accident or mistake if he did not intend to discharge his firearm, or the weapon malfunctioned, or similar circumstances occurred.

Id. In *St. Onge*, the court found that the defendant's belief that he was shooting an elk would not be a defense to a criminal charge of knowingly taking a threatened grizzly bear in violation of 16 U.S.C. § 1540(b)(1). 676 F. Supp. at 1044. The court also held in *St. Onge* that the government, in order to convict the defendant of the charged crime, only had to prove that the defendant knowingly took a grizzly

A person engaged in an activity that constitutes a prohibited taking under the Act can also be enjoined from taking a protected species. Section 11(e)(6)[99] of the Endangered Species Act provides that "[t]he Attorney General of the United States may seek to enjoin any person who is alleged to be in violation of any provision" of the Act or any "regulation issued under authority thereof." This provision authorizes the Attorney General to file a civil suit, seeking injunctive relief, against a person engaging in conduct that takes endangered or threatened fish or wildlife in violation of the Endangered Species Act.

In addition, "the [Endangered Species Act] provides a private right of action to enjoin violations of the Act."[100] This citizen suit provision[101] authorizes any person, with standing, to enforce the Act through injunctive relief by filing suit against any person alleged to be in violation of any provision of the Act or regulation issued under the Act.[102] "Congress thus encouraged citizens to 'bring civil suits . . . to force compliance with any provision of the Act.'"[103] In order for a person "to be in violation of" the Endangered Species Act's takings prohibitions and subject to a citizen suit, the person must be engaged in continuous, ongoing conduct that constitutes a prohibited taking,

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bear and that the defendant had no federal permit to take the bear. *Id.* at 1045.

Similarly, in United States v. Nguyen, 916 F.2d 1016 (5th Cir. 1990), the defendant was charged under the Endangered Species Act of the crime of knowing possession, importation, or attempting to possess a listed threatened species. The Fifth Circuit held that the legislative history of section 11 of the Act, 16 U.S.C. § 1540 demonstrates Congress' intent to make its violation "a general intent crime." *Id.* at 1018. The Fifth Circuit stated that Congress' purpose is reflected in the 1978 amendment of 16 U.S.C. § 1540(b)(1) by substituting "knowingly" for "willfully." 916 F.2d at 1018-19 (citing H.R. REP. No. 1625, 95th Cong., 2d Sess. 26; H.R. CONF. REP. No. 1804, 95th Cong., 2d Sess. 26). "The committee explicitly stated that it did 'not intend to make knowledge of the law an element of either civil penalty or criminal violations of the Act.'" 916 F.2d at 1019 (citation omitted). The Fifth Circuit therefore held in *Nguyen* that the government in a criminal prosecution under section 11 of the Act does not have to prove that the defendant knew that his conduct was illegal, knew the species of the animal in question or knew that the species was a listed threatened species. *Id.* at 1018.

Without supporting analysis or citations, one federal district court has stated in dictum that 16 U.S.C. §§ 1540(a) and (b) require that the defendant knew that the conduct for which he is assessed civil penalties or criminally prosecuted was unlawful. Sweet Home Chapter v. Lujan, 806 F. Supp. 279, 286 (D.D.C. 1992), *aff'd sub nom.* Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *modified on petition for reh'g*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

99. 16 U.S.C. § 1540(e)(6) (1988).

100. Defenders of Wildlife v. EPA, 882 F.2d 1294, 1299 (8th Cir. 1989).

101. 16 U.S.C. § 1540(g)(1)(A) (1988).

102. *Id.* § 1540(g)(1).

103. Defenders of Wildlife v. EPA, 882 F.2d at 1300 (quoting Tennessee Valley Auth. v. Hill, 437 U.S. 153, 181 (1978)).

both at the time the citizen suit is filed and when the citizen suit comes to trial.[104]

Courts differ as to the standard a court should follow in determining whether a permanent injunction should be issued against conduct that constitutes a prohibited taking in violation of the Endangered Species Act. A number of courts hold that courts should not engage in the traditional balancing of equities when an injunction is sought against conduct that constitutes a prohibited taking of an endangered or threatened species. Following this approach, the Ninth Circuit Court of Appeals held, in a citizen suit seeking an injunction against an alleged taking of an endangered species, that courts do not have "their traditional equitable discretion in injunction proceedings of balancing the parties' competing interests," because Congress has determined under the Endangered Species Act "that the balance of hardships and the public interest tips heavily in favor of protected species."[105] One court followed this approach in an Endangered Species Act citizen suit and issued an injunction against a federal agency action, stating that "[w]hen an injunction is sought under the . . . [Endangered Species Act], the traditional balancing of equities is abandoned in favor of an almost absolute presumption in favor of the endangered species."[106]

Under this no-balancing-of-equities approach, a court would grant an injunction if an action constitutes a prohibited taking of an endangered species unless unusual circumstances exist "where the

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104. *Cf.* Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc., 484 U.S. 49 (1987) (holding that § 505(a) of the Clean Water Act requires a good faith allegation of an ongoing violation of the act).

105. National Wildlife Fed'n v. Burlington N. R.R., 23 F.3d 1508, 1511 (9th Cir. 1994) (affirming denial of motion for preliminary injunction, but stating principles apparently governing all injunction proceedings under the Endangered Species Act). The Ninth Circuit in *Burlington Northern Railroad*, however, affirmed the district court's denial of a motion for a preliminary injunction against the railroad that would have required the railroad's trains to reduce speed at locations where corn had accidentally spilled, and to obtain an incidental taking permit under section 10(a)(1)(B), 16 U.S.C. § 1539(a)(1)(B), although the railroad's trains had struck and killed seven grizzly bears attracted to the spilled corn. Because the district court found that the railroad's cleanup efforts had "substantially minimized" "the attrac tiveness of the corn spill sites as food sources" and because "[t]he fact that no bears have been killed by BN trains in three years supports an inference that the cleanup was effective," the Ninth Circuit held that the district court did not "clearly err" in denying the preliminary injunction on the grounds that the plaintiff "failed to establish the likelihood of irreparable future injury." *Id.* at 1511. *See infra* notes 111-12 and accompanying text.

106. Defenders of Wildlife v. EPA, 688 F. Supp. 1334, 1355 (D. Minn. 1988), *aff'd in part and rev'd in part*, 882 F.2d 1294 (8th Cir. 1989). In this case, the Eighth Circuit held that the district court had properly enjoined the EPA from continuing registration of strychnine under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136-136y (1982 & Supp. IV 1986), when such registration constituted a prohibited taking of endangered species of wildlife. 882 F.2d at 1301. *See infra* note 167.

ecological harm caused by . . . granting . . . [the] injunction would be greater than if no injunction [was] issued."[107] Courts following this approach take the position that because Congress intended to afford endangered species "'the highest of priorities,'"[108] the United States is entitled to an injunction against a prohibited taking of a threatened species of wildlife in violation of the Act if injury to the species is "likely and irreparable."[109] Similarly, a court held, in a citizen suit seeking to enjoin a prohibited taking of an endangered species, that when a taking creates "an actual present negative impact on the [species'] population that threatens the continued existence and recovery of the species . . ., the Endangered Species Act leaves no room for balancing policy considerations," and a court must order cessation of the activity that constitutes the prohibited taking.[110]

A court following this no-balancing-of-equities approach, however, "must look at the likelihood of future harm before deciding whether to grant an injunction under the [Endangered Species Act]."[111] To obtain an injunction against a person who allegedly will continue to take a protected species in violation of the Act, the plaintiff "must prove that there is a reasonable likelihood of future violations of the [Endangered Species Act]."[112]

Several courts, however, following the more traditional balancing-of-equities approach, have held that in order for plaintiffs to obtain a

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107. National Wildlife Fed'n v. Hodel, 23 Env't Rep. (BNA) 1089 (E.D. Cal. 1985). In this case, the court issued a preliminary injunction against the Secretary of the Interior and the Director of the Fish and Wildlife Service prohibiting the defendants from authorizing the hunting of migratory birds with lead shot in certain areas, in part because this authorization constituted a prohibited taking of endangered bald eagles that were wounded or killed by lead shot. *See infra* note 167.

108. United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. 1126, 1132 (E.D. Cal. 1992) (quoting Tennessee Valley Auth. v. Hill, 437 U.S. 153, 174 (1978)). The court in *Glenn-Colusa* enjoined an irrigation district from pumping water from the Sacramento River at a particular facility during the threatened winter-run chinook salmon's peak downstream migration season, because that conduct constituted a prohibited taking of the salmon by killing salmon. 788 F. Supp. at 1135.

109. United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. at 1132.

110. Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1082 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988). The Ninth Circuit in *Palila* upheld the district court's issuance of an injunction requiring the State of Hawaii to remove all mouflon sheep from the critical habitat of the endangered palila bird species, because the presence of the mouflon sheep in that habitat constituted "harm" and a "take" of the palila in violation of the Endangered Species Act. 852 F.2d at 1110; *see infra* notes 207-58 and accompanying text.

111. National Wildlife Fed'n v. Burlington N. R.R., 23 F.3d 1506, 1511 (9th Cir. 1994). *See supra* note 105.

112. *Id.* Future harm of a protected species does not have to "be shown with certainty before an injunction may issue," but "[t]he plaintiff must make a showing that a violation of the [Endangered Species Act] is at least likely in the future." *Id.* Although "a threat of extinction to the species" is not required before an injunction may be issued under the Act, there must be "a definitive threat of future harm to protected species, not mere speculation." *Id.* at 1511 n.8.

permanent injunction against a prohibited taking, "the [p]laintiffs must establish four facts: (1) actual success on the merits, (2) a substantial threat of irreparable harm absent an injunction, (3) that the irreparable harm threatened is greater than that caused by the injunction, and (4) the public interest would be served by the injunction."[113]

III. PROTECTION OF WILDLIFE HABITAT UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT

In analyzing the issue of whether modification of wildlife habitat is regulated under the Endangered Species Act's takings prohibitions, the regulation of habitat modification under section 7[114] of the Act should be considered. Section 7 of the Act can prohibit federal agency action that will destroy or modify the habitat of endangered or threatened species of fish or wildlife.[115] Section 7(a)(2)[116] of the Endangered Species Act provides:

> Each Federal agency shall, in consultation with and with the assistance of the Secretary [of the Interior or Commerce], insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary . . . to be critical, unless such agency has been granted an exemption for such action by the [Endangered Species] Committee pursuant to subsection (h) of this section . . . .[117]

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113. Sierra Club v. Lyng, 694 F. Supp. 1260, 1277 (E.D. Tex. 1988), *aff'd in part and vacated in part on other grounds sub nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991); *see also* Sierra Club v. Lujan, 36 Env't. Rep. Cas. (BNA) 1533, 1554 (W.D. Tex. 1993) (quoting *Lyng*'s four facts). In *Lyng*, the court issued a permanent injunction against certain national forest management practices of the United States Forest Service, which were found to be a taking in violation of the Endangered Species Act as well as in violation of section 7, 16 U.S.C. § 1536, of the Act. *See infra* notes 183-206 and accompanying text. The *Lyng* court issued the permanent injunction on the grounds that otherwise irreparable harm would result to an endangered species of woodpecker that was on the "verge of extinction" because of a "steadily declining population," that "the harm to the woodpecker through extinction would outweigh any harm caused by [the] injunction," and "that the public interest . . . [would] be served by the attempt to preserve [the] species." 694 F. Supp. at 1277. The court in *Lujan* ordered the Texas Water Commission to prepare a plan to assure that withdrawals of water from groundwater would not cause spring flow levels in two springs to drop below levels that result in endangered and threatened species being taken in violation of the Endangered Species Act. 36 Env't. Rep. Cas. (BNA) at 1558.

114. 16 U.S.C. § 1536 (1988).

115. *See* Tennessee Valley Auth. v. Hill, 437 U.S. 153, 173 (1978); Sierra Club v. Marsh, 816 F.2d 1376, 1383 (9th Cir. 1987).

116. 16 U.S.C. § 1536(a)(2) (1988).

117. Section 7 of "[t]he Act prescribes a three-step process to ensure compliance" by federal agencies with section 7(a)(2)'s "substantive provisions," with each of the first two steps serving

Section 7(a)(2) only applies to action authorized, funded or carried out by a federal agency;[118] it consequently does not apply to private action or state or local government actions that are not authorized, funded, or carried out by a federal agency.[119] The Endangered Species Act's prohibitions regarding taking endangered and threatened species of fish and wildlife, however, apply to any person, including private individuals, corporations, states, municipalities, state political subdivisions, and employees and agents of the federal government, a state, a municipality, or a political subdivision of a state.[120] Although federal agency action that destroys or adversely modifies a protected species' habitat may violate section 7(a)(2)'s prohibition of actions that "jeopardize the continued existence of any endangered species or threatened species,"[121] this prohibition only applies to actions that may kill *all* members of the endangered or threatened species (resulting in the species becoming extinct).[122] The

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"a screening function to determine if the successive steps are required." Thomas v. Peterson, 753 F.2d 754, 763 (9th Cir. 1985). These three procedural "steps" are:

l) A federal agency shall inquire of the Fish and Wildlife Service whether any threatened or endangered species "may be present" in the area of the agency's proposed action. 16 U.S.C. § 1536(c)(1) (1988).

2) Preparation by the agency of a biological assessment if the Secretary finds that a threatened or endangered species may be present. The biological assessment, which may be part of an environmental impact statement or environmental assessment under the National Environmental Policy Act of 1969, 42 U.S.C. § 4332(2)(C) (1988), is to be conducted "for the purpose of identifying any endangered species or threatened species which is likely to be affected by such action." 16 U.S.C. § 1536(c)(1) (1988).

3) Formal consultation by the agency with the Fish and Wildlife Service if the biological assessment determines that a threatened or endangered species "is likely to be affected" by the agency action. *Id.* § 1536(a)(2). Following this formal consultation, the Fish and Wildlife Service is required to issue a "biological" "opinion . . . detailing how the agency action affects the species or its critical habitat." 16 U.S.C. § 1536(b)(3)(A). If the biological opinion concludes that the proposed agency action would jeopardize a listed species or adversely modify its critical habitat, then the agency action would violate 16 U.S.C. § 1536(a)(2) and cannot be undertaken unless the Fish and Wildlife Service, pursuant to its duty under 16 U.S.C. § 1536(b)(3)(A) (1988), has suggested a reasonable and prudent alternative which it believes the agency or applicant can take without violating section 7(a)(2) of the Act. Thomas v. Peterson, 753 F.2d 754, 763 (9th Cir. 1985). If the biological opinion concludes that the agency action will not violate section 7(a)(2), the Fish and Wildlife Service may under 16 U.S.C. § 1536(b)(4)(ii)-(iii) require reasonable and prudent measures to minimize takings of endangered or threatened species incidental to the agency action. Thomas v. Peterson, 753 F.2d at 763. The National Marine Fisheries Service and the Fish and Wildlife Service have adopted joint regulations that interpret and implement sections 7(a)-(d), 16 U.S.C. § 1536(a)-(d) (1988), of the Endangered Species Act. 50 C.F.R. §§ 402.01-.16 (1993). *See* Freeman, *supra* note 63, at 17; William H. Satterfield et al., *Who's Afraid of the Big Bad Beach Mouse*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 13.

118. *See* Proffitt v. Dep't of Interior *ex rel.* Lujan, 825 F. Supp. 159, 164 (W.D. Ky. 1993).

119. *See* Freeman, *supra* note 63, at 37-38.

120. *See supra* notes 22-23 and accompanying text.

121. *See* Sierra Club v. Marsh, 816 F.2d 1376, 1385 (9th Cir. 1987).

Act's general prohibition of taking endangered or threatened species of fish or wildlife is violated, however, when only one animal within the species is killed or otherwise taken,[123] even if the species' continued existence is not jeopardized by the killing of one or a few members of the endangered or threatened species.[124]

Section 7(a)(2)'s alternative prohibition of federal agency action that may result in the destruction or modification of critical habitat[125] of an endangered species only applies when the habitat has been

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122. *See* Tennessee Valley Auth. v. Hill, 437 U.S. 153, 156, 171-72, 174 (1978) (finding that section 7 will be violated by a federal agency project that extinguishes the existence of an entire species). Joint regulations of the National Marine Fisheries Service and the Fish and Wildlife Service, which interpret and implement section 7(a)(2), define "[j]eopardize the continued existence of" to mean "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02 (1993).

123. Endangered and Threatened Wildlife and Plants, 46 Fed. Reg. 54,748 (1981) (codified at 50 C.F.R. § 17.3) (redefining "harm" within the meaning of "take" under the Endangered Species Act) (stating that "section 9's threshold does focus on individual members of a protected species").

124. *See* Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1077 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988) (holding that the population of an endangered species does not have "to dip closer to extinction before the [takings] prohibitions of section 9 come into force").

125. "Critical habitat" for a threatened or endangered species is defined to mean:

> (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section [4 of the Act, 16 U.S.C. § 1533 (1988)] . . ., 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.

16 U.S.C. § 1532(5)(A) (1988). Judge Stephen Williams, in a statement joined by Judge Sentelle in support of denial of appellees' petition for rehearing of Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859), *see infra* notes 345-56 and accompanying text, stated that section 7(a)(2)'s prohibition of the federal government's "destruction or adverse modification of habitat . . . which is determined . . . to be critical," "seems to be simply another way of referring to habitat modifications so significant to the species that they might lead to death (or at least some very serious injury) for members of the species." Sweet Home Chapter v. Babbitt, 30 F.3d 190, 192 (D.C. Cir. 1994) (statement of Williams, J.), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

determined critical by the Secretary of the Interior or Commerce.[126] Consequently, if section 9's takings prohibitions can be violated by habitat modification, its takings prohibitions can extend to habitat modifications by private individuals, corporations and state and local governments that are not authorized or funded by a federal agency, and to habitat modification that only kills or injures a single or a few animals within a protected species—habitat modifications that can not be prohibited under section 7(a)(2).[127]

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126. Procedures for designation of critical habitat for endangered and threatened species are set forth in 16 U.S.C. §§ 1533(a)(3), (b)(2), (b)(6)(c) (1988) and in 50 C.F.R. §§ 424.01-.21 (1993). Areas that have been listed as critical habitat are set forth at 50 C.F.R. § 17.95 (fish and wildlife) and § 17.96 (plants) (1993). The areas listed in § 17.95 (fish and wildlife) and § 17.96 (plants) and referred to in the lists at §§ 17.11 and 17.12 have been determined by the Director to be "Critical Habitats". *Id.* at § 17.94 (a). Fish and Wildlife Service regulations specify that "[a]ll Federal agencies must insure that any action authorized, funded, or carried out by them is not likely to result in the destruction or adverse modification of the constituent elements essential to the conservation of the listed species within these defined Critical Habitats." *Id.*

Judge Stephen Williams, in a statement joined in by Judge Sentelle in support of denial of appellees' petition for rehearing of Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *see infra* notes 345-56 and accompanying text, concluded that "[i]n looking at the Department's regulations [50 C.F.R. § 17.94 (1993)] discussing modifications of 'critical' habitat under § 7, and habitat modifications that are forbidden under the Department's view of § 9, we are unable to discern any substantive, operational difference, and the government has not identified any . . . . If there are 'essential' habitat elements whose removal or destruction causes no injury, the government cites no example and it is hard to imagine one." Sweet Home Chapter v. Babbitt, 30 F.3d at 192 (statement of Williams, J.) (citations omitted).

127. *See* Comment, *What Does It Take to Take and What Does It Take to Jeopardize? A Comparative Analysis of the Standards Embodied in Sections 7 and 9 of the Endangered Species Act*, 7 TUL. ENVTL. L.J. 197 (1993). The Endangered Species Act's only remedy for a violation of section 7's substantive provisions, or a substantial violation of section 7's procedural requirements, is issuance by a court, without the traditional balancing of equities, of an injunction against the action. *See* Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978); Thomas v. Peterson, 753 F.2d 754 (9th Cir. 1985); Sierra Club v. Marsh, 816 F.2d 1376, 1383 n.10 (9th Cir. 1987). The Endangered Species Act does not impose civil penalties or criminal punishment upon persons violating section 7 of the Act, although persons who violate the Act's prohibitions or takings of endangered and threatened species are subject to civil penalties and criminal punishment. *See supra* notes 86-98 and accompanying text.

Judge Stephen Williams, in a statement joined in by Judge Sentelle in support of denial of appellees' petition for rehearing of Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *see infra* notes 345-56 and accompanying text, states that:

> Michael Bean, Senior Counsel for the Environmental Defense Fund, recognized the virtual identity between what the Senate deleted from § 9 and what it retained in § 7 when he wrote, not long after the Act passed, "if "taking' [sic] comprehends habitat destruction, then it is at least doubtful whether section 7 of the Act is even necessary." MICHAEL J. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 397 (1977). *But see* MICHAEL J. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 342 (Revised & Expanded Edition 1983).

Sweet Home Chapter v. Babbitt, 30 F.3d 190, 192 (D.C. Cir. 1994) (statement by Williams, J.), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995)(No. 94-859). This analysis by Judge Williams ignores the differences between sections 9 and 7(a)(2) of the Endangered Species

IV. FISH AND WILDLIFE SERVICE'S 1975 REGULATION DEFINING "HARM" AND "HARASS"

A. History of the Regulation

In 1975, the Fish and Wildlife Service adopted a regulation, which is still in effect, that defines "harass" (in the Endangered Species Act's definition of "take") to mean:

> [A]n intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.[128]

When the Fish and Wildlife Service adopted this definition of "harass" on September 26, 1975, it did not explain the definition's basis.[129] The House Report on the Endangered Species Act of 1973 may give some insight into the basis for the definition of "harass:"

> [Take] includes harassment, whether intentional or not. This would allow, for example, the Secretary to regulate or prohibit the activities of birdwatchers where the effect of those activities might disturb the birds and make it difficult for them to hatch or raise their young.[130]

The Fish and Wildlife Service's final definition of "harass" differs from its proposed definition of "harass," which was:

> [A]n act which either actually or potentially harms wildlife by killing or injuring it, or by annoying it to such an extent as to cause serious disruption in essential behavior patterns, such as feeding, breeding or sheltering; significant environmental modification or degradation which has such effects is included within the meaning of "harass."[131]

Act discussed in this section of the article. *See supra* notes 114-27 and accompanying text; *see also infra* notes 345-56 and accompanying text.

128. 50 C.F.R. § 17.3 (1993). Fish and Wildlife Service regulations define "wildlife" to mean the same as "fish or wildlife." *Id.* at § 10.12. "Fish or wildlife" in turn is defined to mean "any wild animal, whether alive or dead, including without limitation any wild mammal, bird, reptile, amphibian, fish, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, whether or not bred, hatched, or born in captivity, and including any part, product, egg, or off-spring thereof." *Id.* Fish and Wildlife Service regulations at 50 C.F.R. § 10.11 (1993) provide that words in singular form shall include plural, and words in plural form shall include singular.

129. *See* 40 Fed. Reg. 44,412-16 (Sept. 26, 1975) (codified at 50 C.F.R. § 17.3).

130. H.R. REP. NO. 412, 93d Cong., lst Sess. 11 (1973).

131. 40 Fed. Reg. 28,714 (July 8, 1975).

This proposed definition of "harass" was the basis for a final definition of "harm," which the Fish and Wildlife Service defined as follows on September 26, 1975:

> "Harm" in the definition of "take" in the Act means 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, but are not limited to, breeding, feeding or sheltering; significant environmental modification or degradation which has such effects is included within the meaning of "harm" . . . .[132]

The definition of "harm" adopted in 1975 differed from the proposed definition of "harass" by including the words: "or omission" after "act" and by substituting the words: "which actually injures or kills wildlife, including acts which annoy it to such an extent as to significantly disrupt essential behavioral patterns, which include, but are not limited to, breeding, feeding or sheltering" for the words: "which either actually or potentially harms wildlife by killing or injuring it, or by annoying it to such an extent as to cause serious disruption in essential behavioral patterns, such as feeding, breeding or sheltering."[133]

In adopting these final definitions of "harass" and "harm" in 1975, the Fish and Wildlife Service explained:

> The definition of "harass" has been retained in a modified form in this final rulemaking, to make it applicable to actions or omis sions with the potential for injury. The concept of environmental damage being considered a "taking" has been retained, but is now found in a new definition, of the word "harm." "Harm" covers ac tions or omissions which actually (as opposed to potentially), cause injury. In addition, the definition of "harass" has been modified by restricting its application to acts or omissions which are done intentionally or negligently. In the proposal, "harass" would have ap plied to any action, regardless of intent or negligence . . . .
>
> By moving the concept of environmental degradation to the definition of "harm," potential restrictions on environmental modifications are expressly limited to those actions causing actual death or injury to a protected species of fish of wildlife . . . .
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> * * * *

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132. 50 C.F.R. § 17.3 (1975). This 1975 definition of "harm" was amended in 1981. *See infra* notes 149-62 and accompanying text.

133. *Compare* 40 Fed. Reg. 28,714 (July 8, 1975) *with* 40 Fed. Reg. 44,416-17 (Sept. 26, 1975) (codified at 50 C.F.R. § 17.3).

> It should be noted that this definition of "harm" which includes significant environmental modification, does not permanently limit the environmental modifications that are permissible for the habitat of a listed species of fish or wildlife . . . . [T]he species could recover completely and be delisted altogether. Finally, the species in question could abandon its use of the area. In all of these situations, the limited restrictions on environmental modification under the definition of "harm" would be removed.[134]

The Fish and Wildlife Service's definition of "harass" consequently should be interpreted to exclude destruction or modification of wildlife habitat because the Service's final definition of "harass" was intended to exclude "significant environmental [habitat] modification or degradation."[135] The Service intended that such habitat destruction or modification be included only in its definition of "harm."[136]

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134. *Id.* at 44,413.

135. 40 Fed. Reg. 28,714 (July 8, 1975).

136. There have not been any judicial interpretations of the Service's definition of "harass" in any specific factual situation, although Chief Judge Mikva of the United States Court of Appeals for the District of Columbia has observed that the prohibition against "harassment" "can limit a private landowner's use of his land in a rather broad manner." Sweet Home Chapter v. Babbitt, 1 F.3d 1, 10 (D.C. Cir. 1993) (Mikva, C. J., concurring in section II(A)(1) of the opinion), *modified on reh'g*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995)(No. 94-859).

The Service's definition of "harass" is drafted in such a manner that "harass" includes an intentional act or omission that creates the requisite likelihood of injury to wildlife, even if the person had no intent to injure or kill wildlife, and even if the person had no knowledge, or reason to know, that their act or omission created the requisite injury to wildlife. Chief Judge Mikva has stated that "the prohibition against harassment can be used to suppress activities that are in no way intended to injure an endangered species." Sweet Home Chapter v. Babbitt, 1 F.3d at 10 (Mikva, C. J., concurring in section II(A)(1) of the opinion). The Service's definition of "harass," however, does not define "intentional." "Intentional" act or omission might be interpreted the same as "voluntary act or omission" is defined in criminal law, meaning an act or omission that is the product of free and conscious will or of a situation where the person had the choice and opportunity to act differently. *See* WAYNE LAFAVE & AUSTIN W. SCOTT, JR., CRIMINAL LAW, § 3.2(c), at 197-200 (3d ed. 1986); Kilbride v. Lake, N.Z.L. Rev. 590 (1961), *cited in* JOSEPH G. COOK & PAUL MARCUS, CRIMINAL LAW 128-33 (2d ed. 1988). Under such an interpretation, an act or omission would not be intentional if the act or omission occurred while the person was asleep or unconscious. *See* LAFAVE & SCOTT, supra, at § 3.2(c). Such an interpretation of an "intentional act or omission" would essentially be the same as the definition of what constitutes a "knowing" violation of the Endangered Species Act's takings prohibitions for purposes of imposition of civil penalties and criminal punishment under the Act. *See supra* notes 96-98 and accompanying text. Almost any act or omission engaged in by a person would be "intentional" under this interpretation if the person was not asleep or unconscious when the act or omission occurred; therefore there would be no need to determine if the act or omission was "negligent."

The Fish and Wildlife Service's definition of "harass" does not define "negligent." In order for a person's act or omission to be "negligent" within the meaning of "harass," the person probably would have to have breached a duty to an endangered or threatened species of wildlife, proximately causing injury by creating "the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns." 50 C.F.R. § 17.3 (1993). Under traditional tort principles, a person would have such a duty if the person's act or

B. Palila v. Hawaii Department of Land & Natural Resources *(Palila I)*

The Fish and Wildlife Service's 1975 definition of "harm" was interpreted in 1979 in *Palila v. Hawaii Department of Land & Natural Resources*[137] (*Palila I*). The district court in *Palila I* held that acts and omissions of Hawaiian officials, in maintaining populations of feral sheep and goats on state-owned land which was a critical habitat of the endangered palila bird species, constituted a taking in violation of section 9[138] of the Endangered Species Act of 1973, under the Fish and Wildlife Service's definition of "harm" in the Act's definition of "take."[139] The district court in *Palila I* granted plaintiffs' motion for summary judgment in a citizen suit under the Endangered Species Act and ordered that all of the feral sheep and goats be removed from the palila's critical habitat, on the grounds that the palila required all of its critical habitat to survive.[140]

The district court based this judgment upon its findings that the feral sheep and goats within the palila's critical habitat ate seedlings and shoots of the mamane trees and leaves of the naio trees,[141] which provided food, shelter and nest sites for the palila in its critical habitat[142] and prevented regeneration of the mamane-naio forest, causing a "relentless decline" of the palila's designated critical habitat.[143] The district court concluded "that the feral sheep and goats maintained by defendants . . . [were] the major cause of that habitat's degradation,"[144] and that the acts and omissions of the defendants were "clearly within" the Fish and Wildlife Service's definition of "harm" as "significant environmental modification or degradation" which actually injures or kills wildlife.[145]

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omission created a foreseeable risk of such injury to wildlife. *See* FOWLER W. HARPER, FLEMING JAMES, JR., & OSCAR S. GRAY, THE LAW OF TORTS § 18.2, at 654-55 (2d ed. 1986). A person would breach such a duty if he or she fails to exercise reasonable care, exposing protected species of wildlife to an unreasonable risk of injury. *See id.* § 16.9, at 466-67. The degree of care required in a particular situation traditionally is determined by consideration of the gravity of the harm threatened by the person's conduct and the likelihood that the person's conduct will cause that harm, weighed against the costs that would be incurred if the person acted to avoid that risk. *Id.* at 467-68.

137. 471 F. Supp. 985 (D. Haw. 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

138. 16 U.S.C. § 1538 (1976).

139. The district court also held that enforcement of the Endangered Species Act's takings prohibition against the state, state agencies and state employees does not violate either the Tenth or Eleventh Amendment of the United States Constitution. 471 F. Supp. at 992-99.

140. *Id.* at 991.

141. *Id.* at 990.

142. *Id.* at 989.

143. *Id.* at 990.

144. *Id.* at 991.

145. *Id.* at 995.

The Ninth Circuit Court of Appeals affirmed the district court's judgment in *Palila I*, holding that "[t]he defendants' action in maintaining feral sheep and goats in the critical habitat . . . [was] a violation of the Act since it was shown that the Palila was endangered by the activity"[146] and that "[t]he district court's conclusion . . . [was] consistent with the Act's legislative history showing that Congress was informed that the greatest threat to endangered species is the destruction of their natural habitat."[147] *Palila I* is the only major judicial decision interpreting the Fish and Wildlife Service's 1975 definition of "harm."[148] Subsequently, the Fish and Wildlife Service modified its definition of "harm" in 1981.

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146. 639 F.2d at 497.

147. *Id.* at 498 (citing Tennessee Valley Auth. v. Hill, 437 U.S. 153, 179 (1978)).

In 1986, Chief Judge Samuel King explained that in his 1979 decision in *Palila I* "[he] did not find that habitat modification alone caused harm to Palila . . . . On the contrary, the evi dence considered at the summary judgment hearing overwhelmingly showed that the feral animals had a drastic negative impact on the mamane forest which in turn injured the Palila by significantly disrupting its essential behavioral habits." Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1076 n.21 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988) (*Palila II*). Chief Judge King added in *Palila II* that:

> Continued destruction of the forest would have driven the bird into extinction . . . [and] [a]t the time . . ., the continued presence of feral sheep had a severe negative impact on the Palila by indirectly suppressing the population figures to a level which threatened extinction and by preventing the expansion or recovery of the population. These factors supported my decision to order removal of the feral sheeps and goats in *Palila I*.

649 F. Supp. at 1078. Chief Judge King added that in *Palila I* he did not interpret the Fish and Wildlife Service's 1975 definition of "harm" "to require an actual decline in population of an endangered species." *Id.* at 1076 n.21. The Ninth Circuit Court of Appeals stated in 1988 in its *Palila II* decision that "[i]n *Palila I*, the district court construed harm to include habitat destruction that could result in the extinction of the Palila." 852 F.2d at 1108.

148. In Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978), the United States Supreme Court, although primarily addressing the issue of whether operation of the Tellico Dam would violate section 7, 16 U.S.C. § 1536, of the Endangered Species Act, by jeopardizing the continued existence of the endangered snail darter fish, indicated that the operation of the dam might "harm" the snail darter within the meaning of the Fish and Wildlife Service's 1975 definition of "harm" and violate section 9, 16 U.S.C. § 1538, of the Act. The Supreme Court noted that the district court had found that the reservoir that would be created by the dam would have a low oxygen content, while the snail darter needed a clear, flowing river with a high oxygen content, that the low oxygen and high silt levels in the water in the reservoir would not be suitable for snail darter spawning, and that the snail darter's primary source of food would probably not survive in a reservoir environment. 437 U.S. at 165-66 n.16 (citing 419 F. Supp. at 756). Emphasizing that the Fish and Wildlife Service's 1975 definition of "harm" included "significant environmental modification or degradation" which "actually kills or injures wildlife" by "significantly disrupting essential behavioral patterns," the Supreme Court stated: "[w]e do not understand how TVA intends to operate Tellico without 'harming' the snail darter." 437 U.S. at 184-85 n.30. *See* Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1077-78 n.22 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988).

V. FISH AND WILDLIFE SERVICE'S 1981 REDEFINITION OF "HARM"

A. *History of the Regulation*

In 1981, the Fish and Wildlife Service proposed a regulation that would have redefined "harm" as "an act . . . which injures or kills wildlife,"[149] on the grounds that its original 1975 definition of "harm" could be interpreted to include "significant environmental [habitat] modification or degradation" as a prohibited taking "without further proof of actual injury or death to a listed species."[150] The Fish and Wildlife Service noted that under such an interpretation, a showing of significant habitat modification or degradation alone would be sufficient to invoke the criminal penalties of section 9, 16 U.S.C. § 1538, of the Endangered Species Act, "regardless of whether an actual killing or injuring of a listed species of wildlife is demonstrated."[151]

The Fish and Wildlife Service did not adopt this proposed redefinition of "harm," instead adopting on November 4, 1981, a regulation that redefined "harm" (in the Act's definition of "take") to mean "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."[152] The Fish and Wildlife Service stated that "harm" was being redefined:

> to mean any action, including habitat modification, which actually kills or injures wildlife, rather than the present interpretation which might be read to include habitat modification or degradation alone without further proof of death or injury. Habitat modification as injury would only be covered by the new definition if it significant ly impaired essential behavioral patterns of a listed species. [153]

The Service added that its revised definition of "harm" was not limited to:

> direct physical injury to an individual member of the wildlife species . . . . The purpose of the redefinition was to preclude claims of a section 9 taking for habitat modification alone without any attendant death or injury of the protected wildlife. Death or injury, however,

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149. 46 Fed. Reg. 29,490 (1981) (proposed June 2, 1981).
150. *Id.*
151. *Id.*
152. 50 C.F.R. § 17.3 (1993).
153. 46 Fed. Reg. 54,748 (1981) (codified at 50 C.F.R. § 17.3).

> may be caused by impairment of essential behavioral patterns which can have significant and permanent effects on a listed species.[154]

The Fish and Wildlife Service also stated, in the preamble to its regulation redefining "harm," that *Palila I*[155] can "be read to incorrectly *imply* that under the Services [sic] definition of 'harm' a taking may occur from habitat modification alone."[156] The Fish and Wildlife Service stressed that under its redefinition of "harm":

> [H]abitat modification or degradation, standing alone, is not a taking pursuant to section 9. To be subject to section 9, the modification or degradation must be *significant*, must *significantly impair essential* behavioral patterns, and must result in actual injury to a protected wildlife species. The word "impair" was substituted for "disrupt" to limit harm to situations where a behavioral pattern was adversely affected and not simply disturbed on a temporary basis with no consequent injury to the protected species.[157]

Habitat modification does not constitute "harm" under this new 1981 definition unless the habitat modification causes death or injury to members of a protected species.[158] Under this new definition of "harm," however, modification of the habitat of a listed wildlife species constitutes "harm" when the habitat modification "causes ascertainable physical injury or death to an individual member of a listed species."[159] The new definition of "harm" does not "require an actual decline in population of an endangered species"[160] and "does not indicate that threatened extinction is necessary for a finding of harm."[161] Scientific evidence demonstrating that habitat modification is impairing a species' essential behavioral patterns, however, is not a

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154. *Id.*

155. *See supra* notes 137-47 and accompanying text.

156. 46 Fed. Reg. 54,749 (1981) (emphasis added) (codified at 50 C.F.R. § 17.3). Responding to this statement by the Fish and Wildlife Service, Chief Judge Samuel King, the author of the district court opinion in *Palila I*, asserted in 1986 of his 1979 decision in *Palila I* "I did not find that habitat modification alone caused harm to the *Palila*." Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1076 n.21 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988). *See supra* note 147.

157. 46 Fed. Reg. 54,750 (1981) (emphasis added) (codified at 50 U.S.C. § 17.3).

158. *Palila*, 649 F. Supp. at 1077, *aff'd*, 852 F.2d 1106 (9th Cir. 1988); Morrill v. Lujan, 802 F. Supp. 424, 430 (S.D. Ala. 1992). *See* American Bald Eagle v. Bhatti, 9 F.3d 163 (1st Cir. 1993) (stating that a showing of actual injury to a listed species is required in order for there to be "harm" and a "taking" in violation of section 9 of the Endangered Species Act; a "one in a million risk of harm is [not] sufficient"); *see also* Pyramid Lake Paiute Tribe v. United States Dept. of Navy, 898 F.2d 1410, 1419-20 (9th Cir. 1990).

159. Sweet Home Chapter v. Babbitt, 1 F.3d 1, 5 (D.C. Cir. 1993), *modified on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

160. *Palila*, 649 F. Supp. at 1076 n.21.

161. Swan View Coalition, Inc. v. Turner, 824 F. Supp. 923, 938 (D. Mont. 1992).

sufficient basis to infer, for purposes of this new definition of "harm," that death or injury is necessarily occurring.[162]

B. Questions Raised by the Regulation and Suggested Interpretations

The Service's definition of "harm" does not define when habitat modification or degradation is "significant." Habitat modification or degradation that "actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering,"[163] should be "significant." The determination of whether habitat modification constitutes "harm" under the new definition, however, generally "requires an evaluation of the species involved, the biological needs of that species, and the degree of habitat modification."[164]

One question not answered by either the Endangered Species Act's definition of "take" or the Fish and Wildlife Service's definition of "harm" is whether an action of federal, state or local government, permitting or authorizing another person to engage in conduct that kills or injures endangered or threatened wildlife, is a prohibited taking in violation of the Endangered Species Act. The Fish and Wildlife Service, at least in California, has taken the position in letters to municipal and county officials that such officials can violate the Act's takings prohibition if they approve, through zoning actions, proposed development of land that serves as habitat for a listed protected species.[165]

When such governmental authorization is a legal prerequisite to private action that modifies the habitat of endangered or threatened species and causes the death or injury of members of that species, that governmental authorization is a cause-in-fact of such death or injury[166] and should be found, along with such private action, to have "harmed" and "taken" protected species in violation of the Endangered

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162. *Id.* at 939.

163. 46 Fed. Reg. 54,750 (codified at 50 C.F.R. § 17.3).

164. Sweet Home Chapter v. Lujan, 806 F. Supp. 279, 286 (D.D.C. 1992), *aff'd sub nom.* Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *aff'd in part and rev'd in part on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

165. *See* Thornton, *Takings*, *supra* note 56, at 50-51.

The Fish and Wildlife Service also reportedly has advised county officials in California that the County could be responsible for a "take" in violation of the Act if it recommended that private landowners clear flammable brush in the endangered Stephens' Kangaroo rat habitat in order to create a preemptive firebreak. *See* Rep. Al McCandless, *Letter to the Editor—Homes Burned So Rats Nests Could Survive*, WASH. POST, Sept. 6, 1994, at A16.

166. *See infra* notes 178-80 and accompanying text (including "but for" and substantial factor causation).

Species Act. Thus, the Fish and Wildlife Service's redefinition of "harm" should be interpreted to mean that "harm" includes federal, state or local government action that authorizes or permits a person to engage in conduct that kills or injures protected species of wildlife, when such governmental authorization or permission is a legal prerequisite for that other person's action.[167]

A more troublesome issue under the takings prohibitions of the Endangered Species Act is whether a granting of funds by federal, state or local government to a person, who utilizes such funds to undertake an action, constitutes a prohibited taking when that person's action kills or injures a protected species of wildlife. Government funds granted to a person should be held to "harm" and "take" a protected species if there is a finding that the person's action that killed or injured wildlife would not have occurred "but for" the granting of government funds, or that the government's grant was a substantial factor in the person's action that killed or injured a protected species.[168] The Fish and Wildlife Service's definition of "harm" should also be interpreted to mean that a governmental granting of funds constitutes "harm" in such a situation.

167. One court, without explicitly discussing the issue of whether a governmental body "takes" wildlife when it authorizes or permits action by another person that kills or injures wildlife, held that the Environmental Protection Agency's (EPA) registration of pesticides containing strychnine, causing the death of endangered species that ate strychnine-laced rodent bait (or rodents that had been poisoned by such bait), constituted a prohibited taking of an endangered species in violation of the Endangered Species Act. Defenders of Wildlife v. EPA, 882 F.2d 1294, 1301 (8th Cir. 1989). The Eighth Circuit reasoned in this case that: (1) "a taking occurs when the challenged activity has 'some prohibited impact on an endangered species'," *id.* at 1300-01 (quoting Palila v. Hawaii Dep't of Land & Natural Resources, 639 F.2d 495, 497 (9th Cir. 1981)); and (2) that the EPA's strychnine registrations had a prohibited impact on endangered species because endangered species had died after eating strychnine bait and because "strychnine can be distributed only if it is registered. Consequently, the EPA's decision to register pesticides containing strychnine or to continue these registrations was critical to the resulting poisoning of endangered species." 882 F.2d at 1301. Because the Eighth Circuit found that "[t]he relationship between the registration decision and the deaths of endangered species . . . [was] clear," the EPA's registration of strychnine was held to constitute the taking of endangered species. *Id.* The court's reasoning suggests that it was applying a "but for" causation test—that "but for" EPA's registration of strychnine, endangered species would not eat strychnine bait and be killed.

Another court, without supporting reasoning, held that the federal government's authorization of the use of lead shot by hunters, when such lead shot causes the death of wild bald eagles through lead poisoning when eagles consume other birds that have consumed lead shot or been wounded or killed by lead shot, constituted a taking in violation of section 9 of the Endangered Species Act. National Wildlife Fed'n v. Hodel, 23 Env't Rep. (BNA) 1089 (E.D. Cal. 1985). *See also* Sierra Club v. Lyng, 694 F. Supp. 1260 (E.D. Tex. 1988), *aff'd in part and vacated in part sub nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991) (stating that Forest Service's management practices and policies, allowing private timber companies to cut timber in national forests within endangered species habitats, "harm" the species by causing a severe decline in the species population). *See infra* notes 183-206 and accompanying text.

168. *See infra* notes 178-80 and accompanying text.

Another issue not explicitly addressed by either the Endangered Species Act's definition of "take" or the Fish and Wildlife Service's definition of "harm," is whether an omission, such as the failure of a governmental official or agency to perform a mandatory duty, or exercise discretionary powers, to prevent another person from killing or injuring an endangered or threatened species of wildlife, can constitute a prohibited taking. The Fish and Wildlife Service'sdefinition of "harass"[169] applies to either an "act" or "omission," as did the Fish and Wildlife Service's 1975 definition of "harm";[170] but the Service's 1981 redefinition of "harm" only refers to an "act which actually kills or injures wildlife."[171]

The 1981 redefinition of "harm" might be interpreted as only applying to affirmative acts that kill or injure wildlife. However, when it adopted its redefinition of "harm" in 1981, the Service stated that it deleted the phrase "or omission" from its definition of "harm" since the term "'act'. . . [was] inclusive of either commissions or omissions which would be prohibited by section 9."[172] The Fish and Wildlife Service's 1981 redefinition of "harm" therefore should be interpreted to mean that "harm" occurs when a governmental agency or official fails to perform a mandatory duty, prescribed by statute, regulation, court order, etc., or fails to exercise discretionary powers conferred by statute or regulation, to prevent another person from killing or injuring an endangered or threatened species of wildlife.

In the case of federal departments and agencies such an interpretation of "harm" is consistent with "the policy of Congress [under the Endangered Species Act] that all Federal departments and agencies . . .

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169. 50 C.F.R. § 17.3 (1993).

170. 40 Fed. Reg. 44,415 to 44,416 (Sept. 26, 1975) (codified at 50 C.F.R. § 17.3 (1975)) (current version at 50 C.F.R. § 17.3 (1993)).

171. 50 C.F.R. § 17.3 (1993).

172. 46 Fed. Reg. 54,750 (Nov. 4, 1981) (codified at 50 C.F.R. § 17.3).

In 1994, however, the United States contended, in a petition for rehearing of Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *see infra* notes 345-56 and accompanying text, that the Service's 1981 redefinition of harm required that "habitat modification involve 'affirmative action which creates death or disturbance to essential behavioral patterns with significant and permanent, injurious effects.'" Sweet Home Chapter v. Babbitt, 30 F.3d 190, 192 (D.C. Cir. 1994) (statement of Williams, J.) (quoting Petition for Rehearing), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). Judge Stephen Williams, in his statement joined in by Judge Sentelle, explaining his vote in favor of the court's *per curiam* denial of the appellee's petition for rehearing, asserted that the regulation "in fact requires no 'affirmative action.'" *Id.* After quoting the Service's 1981 statement, Judge Williams accused the federal government of misrepresenting the regulation. *Id.* Judge Williams argued that "the Department [of Interior] inserted the word 'actually' before 'kills or injures' in its redefinition of harm merely to underscore the need for a causal link—a showing that the 'significant and permanent effects' on the species have been 'due to a party's actions.'" *Id.* (quoting 46 Fed. Reg. 54,748 to 54,749 (Nov. 4, 1981)).

shall utilize their authorities in furtherance of the purposes of [the Act]."[173] This interpretation of "harm" also would be consistent with tort standards of causation-in-fact because it would apply the definition of "harm" to omissions by federal, state and local government agencies and officials that are "but for" causes of, or a substantial factor in, the death or injury of protected species of wildlife.[174]

Also troublesome is whether a private, non-governmental person can "harm" and "take" a protected species of wildlife through an omission or failure to protect a listed endangered or threatened species of wildlife from death or injury. A non-governmental person should only be liable under the Endangered Species Act, through an omission, when the person has killed or injured an endangered or threatened species by breaching a legal duty, imposed by statute, regulation, judicial order, or common law, to protect the wildlife from such harm.[175] If a private person's liability for a "taking" under the Act through an omission is not limited to when he or she breaches a legal duty to a protected species, a private landowner might have to "spend money to affirmatively manipulate their lands to improve habitat conditions for listed species"[176] anytime listed wildlife was threatened with death or physical injury from hunters, animal predators, disease, other action by third parties, or other natural causes.

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173. 16 U.S.C. § 1531(c)(1) (1988).

174. *See infra* notes 178-80 and accompanying text.

Without explicitly addressing the issue of whether "harm" can occur through an omission, one court held that the failure or refusal of the Secretary of the Interior and the Fish and Wildlife Service to perform its non-discretionary duty under section 4(f), 16 U.S.C. § 1533(f) (1988), to develop and implement a recovery plan for an endangered species of fish, constituted a taking of the endangered species in violation of section 9 of the Act because members of the endangered species were being killed, damaged, or destroyed. Sierra Club v. Lujan, 36 Env't. Rep. Cas. (BNA) 1533 (W.D. Tex. 1993).

Sierra Club v. Yeutter, 926 F.2d 429, 438-39 (5th Cir. 1991), supports an interpretation of "harm" as including a failure of a government agency to comply with requirements the agency has adopted to protect an endangered species. *See infra* note 200-01 and accompanying text. *See also* Quarles et al., *supra* note 29, at 12.

175. Such an approach to a private person's liability for "harm," through an omission, would be similar to the criminal law principles governing a person's liability for criminal homicide (murder or manslaughter) for an omission. In order to be guilty of either murder or manslaughter, a person must unlawfully kill another human being. *See* LAFAVE & SCOTT, *supra* note 136, § 7.1 at 605 & § 7.9 at 652. American courts hold that a person can "kill" another human being through an omission and be guilty of murder or manslaughter as a result of the omission, only if the person had a legal duty (which is recognized only in limited circumstances under the criminal law) to the alleged victim of the criminal homicide and if the person's failure to perform that duty proximately caused the victim's death. *See id.* § 3.3 at 202-12. A similar approach to criminal liability under the Endangered Species Act for "killing" an endangered or threatened species through an omission is appropriate in view of the Act's purpose of insuring the survival and recovery of protected species.

176. *See* Quarles et al., *supra* note 29, at 12.

Yet another issue not addressed by the Fish and Wildlife Service's redefinition of "harm" is the type of evidentiary showing required to show that habitat modification has killed or injured endangered or threatened species. When modification of wildlife habitat involves the cutting down of a tree inhabited by wildlife and the tree falls upon an animal and kills it, or otherwise directly kills a protected wildlife species, the person who cut the tree down has violated section 9's taking provision. Similarly, a person would kill wildlife (and commit a prohibited taking through habitat modification) if he or she struck and killed an endangered or threatened wildlife species, while operating earthmoving equipment (such as a bulldozer or grader) to clear and develop land.

In each of these two examples, a person's modification of wildlife habitat constitutes a prohibited "take" in violation of section 9 of the Endangered Species Act because the person's actions would directly kill a protected wildlife species. There would be no need to determine if the habitat modification constituted "harm" under the Fish and Wildlife Service's regulation. However, when there is no evidence that habitat modification has directly killed an endangered or threatened species of wildlife, questions arise as to when habitat modification constitutes "harm" under the Fish and Wildlife Service's regulation.

The Fish and Wildlife Service's definition of "harm" does not state whether a showing that a particular animal was killed must exist for a court to find a "harm," "kill," or "take" of a protected wildlife species, nor does it state whether a showing that a person's actions or habitat modification, causing a decrease in the population of a protected species of wildlife, is sufficient to support a finding of a "harm," "take," or "kill." Several courts, however, have held that a showing of "harm" does not require proof of the death of individual members of an endangered or threatened species of wildlife.[177]

If the death of an individual wild animal is relied upon to show "harm" or a "kill" in violation of the Endangered Species Act, a number of issues may arise regarding when modification of a species' habitat is alleged to have actually killed those specific animals. When the body of a dead animal is found on modified or altered land that is part of the animal's habitat, the Fish and Wildlife Service's definition of "harm" does not state what type of evidence or showing is required

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177. Palila v. Hawaii Dep't of Land & Natural Resources, 649 F. Supp. 1070, 1075 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988); Sierra Club v. Lyng, 694 F. Supp. 1260, 1270 (E.D. Tex. 1988), *aff'd in part and vacated in part on other grounds sub nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991).

in order for a court to find that the habitat modification actually killed that specific animal. The Service's definition of "harm" does not state whether, or when, modification or alteration of a species' habitat can be found to be a "harm" to, or a "kill" of, a dead animal, if the direct cause of the animal's death appears to be shooting by a hunter, the act of an animal predator, disease, malnutrition, starvation, or unknown (natural) causes.

The Fish and Wildlife Service's definition of "harm" should be interpreted to mean that the modification or degradation of wildlife habitat will be found to have actually killed an individual member of the species, if there is a finding that "but for" the habitat modification or degradation the specific dead animal would not have been killed, or that the habitat modification was a substantial factor in the killing of the animal. Such an approach would follow the "but for" and substantial factor tests used by courts in civil torts cases to determine whether a defendant's tortious conduct was the cause-in-fact of the plaintiff's injury,[178] and would further Congress' intent to give "take" a broad, protective definition[179] and to protect and conserve the habitat of endangered and threatened species of wildlife.[180] Under such an interpretation, habitat modification could be considered to have actually killed an animal that was shot by a hunter or killed by an animal predator if there is a finding that the animal would not have died when it did but for the habitat modification, or that the habitat modification was a substantial factor in causing the animal's death. Such a finding might be made when the habitat modification destroyed an animal's food supply, shelter or protective vegetative cover, causing the animal to migrate to a new habitat where it was vulnerable to the hunter or animal predator that killed it.

Similarly, if a specific animal died as a result of starvation or malnutrition, habitat modification that destroyed or reduced the animal's food supply should be found to have actually killed the animal if there is a finding that the animal would not have died but for the damage to its food supply, or that the damage to its food

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178. *See* Bert Black & David H. Hollander, Jr., *Unravelling Causation: Back to the Basics*, 3 U. BALT. J. ENVTL. L. 1 (1993). In civil torts cases, a plaintiff is required to show that the defendant's tortious conduct was both the cause-in-fact of the plaintiff's injury and the proximate cause of the plaintiff's injury. *See id.* at 1-2. Traditionally, proof of causation-in-fact requires the plaintiff to show that his or her injury would not have occurred "but for" the defendant's conduct. *Id.* at 4. However, many courts today hold that a defendant's conduct can be held to be the cause-in-fact of the plaintiff's injury if the defendant's conduct was a "substantial factor" in causing the plaintiff's injury. *Id.* at 5-6. *See* United States v. Glenn-Colusa Irrigation District, 788 F. Supp. 1126, 1133-34 (E.D. Cal. 1992).

179. *See infra* notes 245-46 and accompanying text.

180. *See supra* note 7 and accompanying text.

supply was a substantial factor in causing the animal's death. If a specific protected animal was found dead on land that was not part of modified or degraded wildlife habitat, there would be a finding that the modification of the wildlife habitat was a "taking" if the dead animal had used the altered or modified habitat prior to its death[181] and if, using the "but for" or substantial factor test, the habitat modification was the cause-in-fact of the animal's death by forcing the animal to migrate to new habitat where it died or was killed. Alternatively, it could be found that the habitat modification was the cause-in-fact of the animal's death even if the animal had never been on the altered or degraded habitat.[182]

Some courts hold that modification of wildlife habitat can constitute "harm" when it causes a decrease in the population of the protected species. In *Sierra Club v. Lyng*, the court held that the management practices of the National Forest Service in eastern Texas' national forests significantly modified the old growth pine tree habitat of the endangered red-cockaded woodpecker.[183] The court held that the resulting decline in the species' population within the national forests' modified habitat was "harm" within the meaning of the Fish and Wildlife Service's 1981 redefinition.[184] The district court in *Lyng* found that the case involved "not merely a situation where the *recovery* of the species . . . [was] impaired by the agency's practices, . . . but rather the

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181. Proving that a particular dead animal had used the modified habitat may be difficult when the animal is found dead on land outside the modified habitat, unless the dead animal had peculiar identifying characteristics and had been observed within the modified habitat prior to its death. Because such evidence usually will not be present, a court in such a case might presume that the dead animal spent at least part of its life on the modified habitat if: (1) the modified habitat, prior to its modification, had characteristics that made it suitable habitat for the dead animal's species; and (2) the place where the dead animal's body was found was close enough to the modified habitat to be within the range of members of the species. *See* Robert J. Taylor, *Biological Uncertainty in the Endangered Species Act*, 8 NAT. RESOURCES & ENV'T, Summer 1993, at 6 (discussing the range and migratory habits of certain species protected under the Endangered Species Act).

182. This latter type of situation might occur if habitat modification caused hunters or animal predators to move their hunting from the modified habitat to another area used by the specific dead animal for its habitat, resulting in the animal being killed by the relocated predator or hunter.

183. 694 F. Supp. 1260 (E.D. Tex. 1988), *aff'd in part and vacated in part on other grounds sub nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991).

184. 694 F. Supp. at 1271-72. The Forest Service's "even-aged management" practices at issue in *Lyng* involved clear-cutting, shelterwood cutting, and seed-tree cutting. *See id.* at 1263 n.2.

The district court in *Lyng* also held that the defendants' actions violated section 7(a)(2) of the Endangered Species Act. 694 F. Supp. at 1272-73 (interpreting U.S.C. § 1536(a)(2)); *see supra* notes 114-27 and accompanying text. However, the defendants' actions did not violate the Wilderness Act. 694 F. Supp. at 1273-75 (interpreting 16 U.S.C. §§ 1131-36).

agency's practices themselves . . . caused and accelerated the decline in the species."[185]

Specifically, the *Lyng* court determined the Forest Service's management practices implicated all four factors of the Fish and Wildlife Service's definition of "harm."[186] First, the district court found that "essential behavioral patterns of the woodpeckers . . . [were] impaired by isolation of woodpecker colonies from one another," because the Forest Service's management practices altered "the customary habits of the birds to survive and produce young" by making "woodpecker colonies particularly susceptible to outbreaks of southern pine beetles" and by contributing "to woodpecker abandonment of cavity trees" used by the woodpeckers for their nests.[187] Second, the district court found that the "isolation of particular colonies interfere[d] with breeding practices," contributing to population decline because "males . . . [could not] find females [with whom] to breed."[188] Third, the district court found that the Forest Service's management practices reduced the woodpecker's food supply and foraging areas. Fourth, the court found that the management practices reduced the number of cavity trees used as nests.[189]

The district court concluded in *Lyng* that the practices and policies of the Forest Service, "when taken as a whole, detrimentally impact[ed] upon the woodpecker and . . . [were] largely responsible for the rapid decline of the remaining birds in Texas."[190] In short, the court held that the Forest Service's management practices caused "harm" to the endangered red-cockaded woodpecker because the practices significantly modified or degraded the woodpecker's habitat, by significantly impairing essential behavioral patterns—including breeding, feeding and sheltering—and actually killed endangered woodpeckers, causing a decline in the woodpecker's population within the national forests.[191]

However, the district court in *Lyng* did not explain how it found that woodpecker deaths, or the significant modification of the wood-

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185. *Id.* at 1271 (emphasis added).

186. *Id.* (listing essential behavioral patterns, breeding, feeding and sheltering, as the four factors constituting "harm").

187. *Id.*

188. *Id.* at 1271-72. The court added that "[i]solation also causes the gene pool to be reduced with fewer birds in a given area, causing genetic problems and abnormalities in the subsequent generations." *Id.* at 1272.

189. *Id.*

190. *Id.*

191. The district court in *Lyng* found that the "severe decline in the population of woodpeckers . . . in the past ten years," *id.* at 1270, was due to "large percentages of the few remaining birds" dying, *id.* at 1271.

peckers' habitat resulting from the Forest Service's management practices, caused the decline in the woodpecker population. The finding that the population decline was due to deaths of woodpeckers apparently was based upon the fact that "[t]he last remaining populations of these birds . . . [were] concentrated in the national forests, primarily because the old growth pines on private lands . . . [had] largely been eliminated."[192] The district court in *Lyng* implicitly found that the woodpeckers had not migrated to private lands when their habitat in the eastern Texas national forests was significantly modified. In the absence of evidence that woodpeckers had migrated to other habitat, the decline in woodpecker population could only be due, as found by the district court, to "large percentages of the few remaining birds hav[ing] died."[193] Since there was no allegation or showing that the deaths and population decline of the species were caused by something independent of the modification of the species' habitat, the district court apparently found that the deaths and declining population of red-cockaded woodpeckers within national forests were caused by the significant habitat modification resulting from the Forest Service's management practices.[194]

On appeal, the Fifth Circuit Court of Appeals implicitly recognized the possibility that the deaths and decline of the red-cockaded woodpecker might have been caused by some other act independent of the Forest Service's management practices, by stating that "the [red-cockaded woodpecker] population ha[d] not fallen as a result of permits granted under section 1539(a)(1)."[195]

The Fifth Circuit concluded that the district court in *Lyng* "did not err in finding that the government violated ESA section 9,"[196] but vacated the district court's orders so far as they mandated the specific features of a Forest Service timber management plan for national forests in Texas.[197] The Fifth Circuit noted that the district court in *Lyng* determined that the Forest Service's management practices "resulted in significant habitat modification" and "caused and accelerated the decline in the [red-cockaded woodpecker] species."[198]

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192. *Id.* at 1265.

193. *Id.* at 1271.

194. *Id.* at 1263.

195. Sierra Club v. Yeutter, 926 F.2d 429, 438 (5th Cir. 1991).

196. *Id.* at 439.

197. *Id.* at 440. The Fifth Circuit held that the district court had not erred in determining that the defendants' actions violated section 7 of the Endangered Species Act (16 U.S.C. § 1536), 926 F.2d at 439, but held that the district court "exceeded its authority to enjoin violations of the [Endangered Species Act]" because "[t]he court's injunction eviscerated the [section 7] consultation process by effectively dictating the result of that process." *Id.* at 440.

198. *Id.* at 438 (quoting 694 F. Supp. at 1260).

In addition, the Fifth Circuit noted that the Forest Service had not completely implemented its wildlife management handbook, which specified silvicultural practices that should be followed in order to protect red-cockaded woodpeckers, by permitting clearcutting within two hundred feet of woodpecker cavity trees and by not removing midstory hardwood. This lack of implementation led to the woodpeckers' abandonment of cavity trees.[199] The Fifth Circuit stated that the Forest Service's:

> course of conduct certainly impair[ed] the [red-cockaded woodpecker's] "essential behavioral patterns, including . . . sheltering," 50 C.F.R. § 17.3, and thus result[ed] in a violation of section 9 . . . . Because the dictates of the USFS's handbook were intended to preserve the dwindling [red-cockaded woodpecker] population, it . . . [was] not unreasonable to conclude that failure to observe the handbook would result in a "taking" of the [red-cockaded woodpecker].[200]

The Fifth Circuit then concluded "that the district court did not err in finding that the government violated ESA section 9."[201] Therefore, *Sierra Club v. Lyng*, as affirmed by the Fifth Circuit Court of Appeals, stands for the proposition that "harm" to an endangered or protected species occurs when that species' population declines after there is significant modification of that species' habitat which significantly impairs the species' breeding, feeding or sheltering, in the absence of a showing that the decline in the species' population is due either to the death of members of the species by independent causes or to migration of members of the species to new habitat, without resulting injury to the migrating animals.

Since the Fish and Wildlife Service's definition of "harm" requires actually killing or injuring wildlife, there must be a finding either: (1) that the decline in population was due to the death of species caused by the habitat modification, or (2) that the decline in population was due to members of the species migrating to new habitat because of the modification of their habitat and that the habitat modification caused "injury" (either to the migrating members of the species or to members

199. *Id.*

200. *Id.* at 438-39 (footnote omitted).

201. *Id.* at 439 (citation and footnote omitted). The reasoning of the Fifth Circuit implies that the term "act" in the Fish and Wildlife Service's redefinition of "harm" can be interpreted to include an omission or failure to act, at least when a federal government agency fails to comply with policies it adopted to protect an endangered or listed species. *See supra* notes 169-74 and accompanying text.

of the species that remain within the modified habitat, or both).[202] Proof of the death of individual members of a protected species, by producing evidence of dead bodies of animals, should not be required in order to prove a "kill" or "harm" of a protected species. Furthermore, an affirmative showing that members of the species have died, or migrated to new habitat with resultant "injury" to the species, is not required, in order to find harm within the meaning of Fish and Wildlife Service regulations.

The Fish and Wildlife Service's definition of "harm" should be interpreted to mean that "harm" includes significant modification or degradation of a protected species' habitat, which significantly impairs essential behavioral patterns, including breeding, feeding or sheltering, when there is a decline in the population of the species within a particular habitat after, or during, modification or degradation of part or all of that habitat.[203] The burden should be on the person who allegedly engaged in or caused the habitat modification or degradation, to show that either: (1) the decline in the species' population was due to death of members of the species caused by something independent of the habitat modification or degradation,[204] or (2) the decline in the species' population was due to the migration of members of the species to a new habitat and that such migration did not cause "injury" to members of the species. Under this approach, a court will presume that the population decrease was caused by the significant habitat modification, if evidence exists that the population, within a particular protected species' habitat, has decreased after or during significant habitat modification. This presumption is consistent with the policy of the Endangered Species Act to protect the habitat of endangered and threatened species of wildlife, and it is rational because wildlife usually is killed or injured

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202. *See infra* notes 207-29 and accompanying text (discussing the interpretation of "injury" within the Fish and Wildlife Service's definition of "harm").

203. In order to invoke this presumption, a court would first have to geographically define the habitat of a species. The species' habitat for purposes of this presumption may be a greater area than the area that has been modified or altered, as determined by the characteristics that make an area suitable habitat for a particular species and by the range and migratory habits of that species. *See* Taylor, *supra* note 181. A court also would have to determine the species' population both before and after the habitat modification, in order to determine if the species' population had declined after or during the habitat modification. *See* Sierra Club v. Lyng, 694 F. Supp. 1260 (E.D. Tex. 1988), *aff'd in part and vacated in part sub nom.* Sierra Club v. Yeutter, 926 F.3d 429 (5th Cir. 1991).

204. Even if the death of a specific animal was directly caused by a hunter shooting a predatory animal, or by starvation, malnutrition, or disease, modification of that animal's habitat may still be the cause-in-fact of that animal's death and considered a "harm" to that animal if it is found that the animal would not have died or been killed at that time "but for" the modification of its habitat, or that the habitat modification was a substantial factor in caus ing the animal's death. *See supra* notes 177-82 and accompanying text.

when modification of their habitat significantly impairs their breeding, feeding or shelter.[205] The presumption that the death of animals and a decline in wildlife species population results from significant modification of that species' habitat could be overcome by evidence that the decline in population is due to the death of members of the species caused by some other act independent of the habitat modification, or by non-injurious migration of members of the species to a new habitat.[206]

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205. *See* Sierra Club v. Lyng, 694 F. Supp. 1260 (E.D. Tex. 1991), *aff'd in part and vacated in part sub nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991).

Such a presumption is also arguably rational because the population of endangered and threatened species should increase as a result of recovery plans developed and implemented by the Secretary of the Interior under section 4(f), 16 U.S.C. § 1533(f), of the Act. The goal of such recovery plans is "the conservation and survival of the species" so "that the species [can] be removed from the list" of endangered or threatened species. *Id.* at § 1533(f)(1)(B)(i)-(ii). Under the Endangered Species Act, however, "[o]nly two domestic species have been delisted due to recovery from endangerment," and only "a minority of listed species boasts recovery plans, and few of the 345 approved recovery plans have been implemented." Desiderio, *supra* note 28, at 41, 80.

> [O]f the hundreds of species listed as endangered or threatened by [the Fish and Wildlife Service] since 1973, most remain poised today on the brink of extinction. Less than a handful of species have recovered in numbers sufficient to warrant a change in their condition. Importantly, more species have become extinct than those that have been recovered.

Id. at 41. In light of these facts, a broad interpretation of "harm," to include an unexplained decline in a species' population when its habitat has been significantly modified, would further the purposes of the Endangered Species Act to protect endangered and threatened species of wildlife and their habitat.

The birth of new members of a species, of course, may affect the extent to which the population of a particular species in a specific area will decline when modification of the species' habitat causes the death of members of that species. In some cases, population of a species in a particular area may not decline during a particular period of time even though modification of the species' habitat causes the death of some members of that species, when the number of new members of the species that are born during a particular period of time equals or exceeds the number of members of the species that die during that period. In the absence of evidence that modification of a species' habitat has caused a decline in the species' population, some other evidence that modification of a species' habitat has killed or injured members of the species would be required to establish that the habitat modification was a taking prohibited by section 9 of the Endangered Species Act.

206. Such a rebuttable presumption, which shifts the burden of proof to the person accused of a "taking" to show that the decline of a species' population was not caused by that person's modification of the species' habitat, is arguably similar to the approach followed by Judge Jenkins in Allen v. United States, 588 F. Supp. 247 (D. Utah 1984), *rev'd on other grounds,* 816 F.2d 1417 (10th Cir. 1987), *cert. denied,* 484 U.S. 1004 (1988). *Allen* involved an action brought against the United States under the Federal Torts Claims Act, 28 U.S.C. §§ 1291, 1346, 2671-80 (1988), by approximately 1200 individuals, alleging that nearly 500 deaths and cancer were caused by radioactive fallout from atmospheric detonation of atomic bombs in Nevada in the 1950's and early 1960's. Since Judge Jenkins found that the cancers suffered by the plaintiffs could be caused by natural, unknown, or "spontaneous" causes as well as by radiation and that science could not distinguish between cancers caused by radiation and cancers caused by other

The Fish and Wildlife Service's redefinition of "harm" does not define what types of harm "injure" wildlife. The Service's definition of "harm" indicates, however, that "harm" includes, but is not limited to, "significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" by significant habitat modification or degradation.[207] The Service's definition of "harm," however, does not require proof of *physical* injury (serious or otherwise) to an individual animal in order for an act to "injure" wildlife.

The Service's definition of "harm" should be interpreted to mean that "harm" occurs either if an act or omission causes physical injury, whether serious or otherwise, to an individual animal, or significantly impairs essential behavioral patterns of a wildlife species, including breeding, feeding or sheltering, through significant habitat modification or otherwise. Such an interpretation would include within "injury" both direct physical injury to specific, individual animals, *and* "injury" to a large number of animals and even an entire species resulting from adverse impacts on feeding, breeding, sheltering, or other essential behavioral patterns of one or more members of a species of wildlife. Such an interpretation of "harm" recognizes the importance of a species' habitat in providing food, shelter, protection, breeding and reproduction sites, and nesting sites for the rearing of young,[208] and recognizes the Endangered Species Act's policy of protecting the habitat of listed species.[209] Such an

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sources, he adopted the following test for determining if the federal government's atomic bomb tests were the cause-in-fact of the plaintiff's cancer:

> Where a defendant who negligently creates a radiological hazard which puts an identifiable population group at increased risk, a member of that group at risk develops a biological condition which is consistent with having been caused by the hazard to which he has been negligently subjected, such consistency having been demonstrated by substantial, appropriate, persuasive, and connecting fac tors, a fact finder may reasonably conclude that the hazard caused the condition absent persuasive proof to the contrary offered by the defendant.

588 F. Supp. at 415. Similarly, when the population of a species within its habitat has declined after its habitat has been modified, it is possible that the population decline is the result of deaths of animals from some other act independent of the habitat modification or migration of animals to new habitat, rather than the habitat modification. As in *Allen*, considerations of fairness support a shifting of the burden of proof to the person who modified a species' habitat to prove that the modification of habitat did not kill or injure members of the species.

207. 50 C.F.R. § 17.3 (1993).

208. *See supra* notes 1-6 and accompanying text.

209. *See supra* note 7 and accompanying text.

interpretation is consistent with the 1986 district court decision in *Palila v. Hawaii Department of Land & Natural Resources* (*Palila II*).[210]

C. Palila v. Hawaii Department of Land & Natural Resources (*Palila II*)

In *Palila II*, the district court held that the conduct of state officials, in permitting mouflon sheep in the endangered palila bird species' designated critical habitat, constituted a prohibited "take" under the Fish and Wildlife Service's 1981 redefinition of "harm."[211] The district court in *Palila II* found that this conduct constituted "harm" within the meaning of the Service's definition of "harm" because:

> (1) the eating habits of the sheep destroyed the mamane woodland and thus caused habitat degradation that could result in extinction; [and] (2) were the mouflon to continue eating the mamane [trees], the woodland would not regenerate and the Palila population would not recover to a point where [the Palila] could be removed from the Endangered Species list."[212]

The district court reasoned in *Palila II* that "harm" under the Service's 1981 redefinition, "would include activities that significantly impair essential behavioral patterns to the extent that there is an actual negative impact or injury to the endangered species, threatening its continued existence or recovery," and "[u]nder both the original definition and the definition as amended in 1981, 'harm' may include significant habitat destruction that injures protected wildlife."[213]

The district court also stated in *Palila II* that:

> [a] finding of "harm" does not require death to individual members of the species; nor does it require a finding that habitat degradation is presently driving the species further toward extinction. Habitat destruction that prevents the recovery of the species by affecting essential behavioral patterns causes actual injury to the species and effects a taking under section 9 of the Act.[214]

Although the court stated that Congress intended under the Endangered Species Act "to prohibit habitat destruction that harms an endangered species,"[215] the court added that:

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210. 649 F. Supp. 1070 (D. Haw. 1986), *aff'd,* 852 F.2d 1106 (9th Cir. 1988).
211. 649 F. Supp. at 1080.
212. 852 F.2d at 1107.
213. 649 F. Supp. at 1075.
214. *Id.*
215. *Id.* at 1076.

> since the purpose of the Endangered Species Act is to protect endangered wildlife, there can be no finding of a taking unless habitat modification or degradation has an adverse impact on the protected species. . . . [H]owever, this injury to the species does not necessitate a finding of death to individual species members . . . [and] a show ing of "harm" similarly does not require a decline in population numbers. . . . Until [a listed species] has reached a sufficiently viable population to be delisted, it should not be necessary for it to dip closer to extinction before the prohibitions of section 9 come into force. The key to the Secretary's definition is harm to the spe cies as a whole through habitat destruction or modification. If the habitat modification prevents the population from recovering, then this causes injury to the species and should be actionable under section 9.[216]

Finding that the "mouflon sheep are having the same destructive impact on the mamane as the feral sheep [in *Palila I* [217]]"[218] and that "the Palila population may be as large as it can be now, given the condition of the mamane"[219] in the Palila's designated critical habitat, the district court, per Judge King, found that:

> Continued grazing by mouflon will continue to suppress mamane growth and regeneration. This in turn will harm the Palila in one of two ways. Either the mouflon sheep will further degrade the mamane ecosystem, thus decreasing the remaining Palila habitat and further depressing the Palila population. Or, at best, the mouflon will merely slow or prevent the recovery of the mamane forest, suppressing the available food supply and nesting sites for Palila, and thus preventing the Palila population from expanding toward recovery.[220]

This finding led Judge King to conclude in *Palila II* that:

> [T]he mouflon sheep are harming the Palila within the definition of 50 C.F.R. § 17.3. The mouflon are having a significant negative impact on the mamane forest, on which the Palila is wholly dependent for breeding, feeding and sheltering. This significant habitat degradation is *actually presently injuring* the Palila by decreasing food and nesting sites, so that the Palila population is suppressed to its

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216. *Id.* at 1077 (footnote omitted). An example of no adverse impact on a species result ing from a habitat modification or degradation is "if the State were to mow the lawn within the Palila's critical habitat, this modification would not in and of itself result in a taking under section 9. There would have to be a showing of concomitant injury to Palila, such as a significant impairment of Palila breeding or feeding habits." *Id.* at 1077 n.24.

217. Palila v. Hawaii Dep't of Land & Natural Resources, 471 F. Supp. 985 (D. Haw. 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981). *See supra* notes 137-47 and accompanying text.

218. 649 F. Supp. at 1079.

219. *Id.* at 1079-80.

220. *Id.*

> current critically endangered levels. If the mouflon continue eating the mamane, the forest will not regenerate and the Palila popula tion will not recover to a point where it can be removed from the Endangered Species List. Thus, the presence of mouflon sheep on Mauna Kea threatens the continued existence and the recovery of the Palila species. If the Palila is to have any hope of survival, the mouflon must be removed to give the mamane forest a chance to recover and expand.[221]

Judge King rejected the state's argument that multiple use of the palila's critical habitat on Mauna Kea by mouflon sheep and the palila should be allowed, on the grounds that once the plaintiffs have shown the "significant negative impact" of mouflon sheep "'harming' the Palila population within the meaning of 50 C.F.R. § 17.3, . . . the [Endangered Species] Act leaves no room for mixed use or other management strategies or policies."[222]

Judge King concluded in *Palila II* that:

> [T]he presence of the mouflon sheep in numbers sufficient for sport-hunting purposes is harming the Palila. They degrade the mamane ecosystem to the extent that there is an actual present negative impact on the Palila population that threatens the continued existence and recovery of the species. Once this determination has been made, the Endangered Species Act leaves no room for balancing policy considerations, but rather requires me to order the removal of the mouflon sheep from Mauna Kea. . . . [T]he mouflon sheep are to be removed from the critical habitat of the Palila on Mauna Kea.[223]

Unlike the court in *Sierra Club v. Lyng*,[224] which held that there was "harm" to an endangered species when the habitat modification caused the population of the species within the habitat to decline, Judge King in *Palila II* held that significant habitat modification of an endangered species' habitat was "injury" and "harm" to that species either when the habitat modification suppresses the species' population level at current levels, threatening the continued existence of the species, or when the habitat modification prevents the species' population from recovering and increasing to an extent that species could be removed from the Endangered Species List. Judge King explicitly stated that an "injury" to a protected species did not require proof of either the death of individual members of a species or a decline in the species' population; he implicitly held that a finding of "injury" to a

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221. *Id.* 1080 (emphasis added) (footnotes omitted).

222. *Id.* at 1081.

223. *Id.* at 1082-83.

224. 694 F. Supp. 1260 (E.D. Tex. 1988), *aff'd in part and vacated in part sub nom.* Sierra Club v. Yeutter, 926 F.2d 429 (5th Cir. 1991). *See supra* notes 183-206 and accompanying text.

listed species does not require proof of physical injury, serious or otherwise, to individual members of a species. Judge King in *Palila II* interprets "injury" as including "injury" to the entire species caused by habitat modification that adversely affects a species' breeding, feeding, or sheltering and prevents an increase of the species' population, when that species thereby is either threatened with extinction or prevented from recovering.

In 1988, the United States Court of Appeals for the Ninth Circuit affirmed[225] Judge King's order in *Palila II*, on the grounds that habitat destruction that could result in a species' extinction causes "harm."[226] The Ninth Circuit in *Palila II* upheld, as not clearly erroneous, Judge King's findings that the state's action, permitting mouflon sheep in the Palila's designated critical habitat, constituted a "taking" of the Palila's habitat.[227] The Ninth Circuit held that "the district court's (and the Secretary's) interpretation of harm as including habitat destruction that could result in extinction, and findings to that effect are enough to sustain an order for the removal of the mouflon sheep."[228] The Ninth Circuit did "not reach the issue of whether the district court properly found that harm included habitat degradation that prevents recovery of an endangered species."[229]

In *Palila II*, the Ninth Circuit also held that the Fish and Wildlife Service's 1981 regulation redefining "harm" "serves the overall purpose of the [Endangered Species Act] . . . [and] is also consistent with the policy of Congress evidenced by the legislative history."[230] The Service's 1981 redefinition of "harm," however, was not directly challenged as invalid in *Palila II*. The Ninth Circuit in *Palila II* implicitly noted this fact when it stated—in addressing the state's argument that the district court incorrectly interpreted the Act's definition of "harm" to include habitat destruction which could drive the palila to

225. Palila v. Hawaii Dep't of Land & Natural Resources, 852 F.2d 1106 (9th Cir. 1 988).

226. *Id.* at 1110.

227. *Id.*

228. *Id.* (footnote omitted).

229. *Id.* at 1110-11. In 1994, the Ninth Circuit stated that its *Palila II* decision "held that the definition of 'harm' in the [Endangered Species Act] includes habitat degradation that could result in extinction," but had "specifically declined to 'reach the issue of whether harm includes habitat degradation that merely retards recovery.'" National Wildlife Fed'n v. Burlington N. R.R., 23 F.3d 1508, 1511 (9th Cir. 1994) (quoting *Palila II*, 852 F.2d at 1110-11). In *Burlington*, the Ninth Circuit further stated that "in order to reach a similar finding of harm using our *Palila II* analysis," the plaintiff "would have to show significant impairment of the species' breeding or feeding habitats and prove that the habitat degradation prevents, or possibly retards, recovery of the species." 23 F.3d at 1511. This recent statement by the Ninth Circuit indicates that the Ninth Circuit today might affirm Judge King's holding in *Palila II* that "harm" to a species occurs when the species' habitat is modified to an extent that it prevents recovery and delisting of the species.

230. 852 F.2d at 1108.

extinction—that "[w]e inquire whether the district court's interpretation is consistent with the Secretary's construction of the statute since he is charged with enforcing the Act, and entitled to deference if his regulation is reasonable and not in conflict with the intent of Congress."[231]

The Ninth Circuit in *Palila II* did not cite or discuss the Supreme Court's approach in *Chevron U.S.A. v. National Resources Defense Council*[232] to judicial review regarding the validity of an agency's statutory construction. The Ninth Circuit in *Palila II*, however, cited *United States v. Riverside Bayview Homes, Inc.*,[233] for the proposition that "the Secretary's construction of the statute [is] . . . entitled to deference if . . . reasonable and not in conflict with the intent of Congress."[234] *Riverside Bayview Homes*[235] cites *Chevron U.S.A.* for the proposition that "[a]n agency's construction of a statute it is charged with enforcing is entitled to deference if it is reasonable and not in conflict with the expressed intent of Congress."[236]

The Ninth Circuit in *Palila II* stated that the Fish and Wildlife Service's definition of "harm" "is entitled to deference if . . . [the regulation] is reasonable and not in conflict with the intent of Congress."[237] This analysis is essentially identical to *Chevron U.S.A.'s* requirements that a court and administrative agency are required to follow the "clear" and "unambiguously expressed intent of Congress."[238] *Chevron U.S.A.* also states that a court is required to follow an agency's resolution of a specific statutory question and not substitute the court's own construction of a statutory provision when the statute is silent or ambiguous with respect to the specific question and

231. *Id.* (citing United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 131 (1985)).
232. 467 U.S. 837 (1984).
233. 474 U.S. 121 (1985).
234. 852 F.2d at 1108.
235. 474 U.S. at 131.
236. *Id.* at 131 (citing *Chevron U.S.A.*, 467 U.S. at 837).
237. 852 F.2d at 1108.
238. 467 U.S. at 842-43. "The judiciary is the final authority on issues of statutory construction and must reject administrative constructions which are contrary to clear congressional intent." *Id.* at 843 n.9. The Supreme Court in *Chevron U.S.A.* indicated that a court is permitted to use "traditional tools of statutory construction" to determine if there is "clear" and "unambiguous" intent by Congress; "[i]f a court, employing traditional tools of statutory construction, ascertains that Congress had an intention on the precise question at issue, that intention is the law and must be given effect." 467 U.S. at 843 n.9; *see* INS v. Cardoza-Fonseca, 480 U.S. 421, 446-50 (1987); Michigan Citizens for an Indep. Press v. Thornburgh, 868 F.2d 1285, 1292-93 (D.C. Cir.), *aff'd per curiam by equally divided court*, 493 U.S. 38 (1989); Sweet Home Chapter v. Babbitt, 30 F.3d 190, 193 (D.C. Cir. 1994) (statement by Williams, J.), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859); *see infra* notes 379, 387-99, 435-61 and accompanying text.

the agency's interpretation of the statute is a "permissible construction"[239] or a "reasonable interpretation"[240] of the statute.

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239. 467 U.S. at 843.

240. *Id.* at 844, 845. *See infra* note 393-94 and accompanying text. *Chevron U.S.A.* also states, however, that "[i]f Congress has explicitly left a gap for the agency to fill" by "explicit" "legislative delegation to an agency on a particular question," *id.* at 843-44, "there is an express delegation of authority to the agency to elucidate a specific provision of the statute by regulation. Such legislative regulations are given controlling weight unless they are arbitrary, capricious, or manifestly contrary to the statute." *Id.* (citations omitted). This arbitrary and capricious standard of review under *Chevron U.S.A.* does not apply to the Fish and Wildlife Service's 1981 redefinition of "harm," because this regulation was not promulgated under "an express delegation of authority to the agency to elucidate a *specific* provision of the statute by regulation." *Id.* (emphasis added). Rather, the Fish and Wildlife Service's 1981 redefinition of "harm" was promulgated under section 11(f), 16 U.S.C. § 1540(f) (1988), of the Endangered Species Act, which authorizes the Secretary of the Interior "to promulgate such regulations as may be appropriate to enforce this chapter," which is "implicit" "legislative delegation" to the Fish and Wildlife Service on the "particular question" of how "harm" should be defined, *see* 467 U.S. at 844, thus requiring a court under *Chevron U.S.A.* to defer to, and uphold, the Service's 1981 redefinition of "harm" if it is a "reasonable interpretation" of the Endangered Species Act. *Id.*

Judge Silberman's dissenting opinion, joined by Chief Judge Mikva and Judge Wald, in Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859), raised the issue of whether *Chevron U.S.A.* was inapplicable to judicial review of the Service's 1981 redefinition of "harm" because "we are dealing with a criminal statute." *See infra* notes 321-461 and accompanying text; *cf.* United States v. Thompson/Center Arms Co., 112 S. Ct. 2102, 2110 & nn.9-10 (1992) (plurality opinion). "That is to say, the *Chevron U.S.A.* presumption—that Congress has delegated primary authority to the administrative agency to reconcile ambiguities in statutory language—may not apply when the statute contemplates criminal enforcement. *Cf.* Kelley v. EPA, 15 F.3d 1100, 1107 (D.C. Cir. 1994). The petitioner does not raise that concern, but it surely is not a separate claim that the petitioner has affirmatively waived." Sweet Home Chapter v. Babbitt, 30 F.3d 190, 194 (D.C. Cir. 1994) (Silberman, J., dissenting from the denial of rehearing en banc), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). The issue of whether *Chevron U.S.A.* applies when a statute contemplates criminal enforcement also was not addressed in *Palila II*. This issue arguably is present in *Sweet Home I*, *Sweet Home II* and in *Palila II* because the Endangered Species Act's prohibition of taking endangered and threatened species is subject to enforcement through criminal penalties, as well as through civil penalties and injunctive relief. *See supra* notes 86-113 and accompanying text.

No statement by the Supreme Court in *Chevron U.S.A.* indicates that the *Chevron* standard of judicial review regarding an agency's interpretation of a statute is inapplicable when the statute is subject to criminal enforcement or when the agency's statutory interpretation is at issue in a criminal prosecution. The plurality opinion in *Thompson/Center Arms Co.* cited by Judge Silberman addresses the issue of the applicability in a civil setting of the rule of lenity in construing a criminal statute, not the issue of the application of the *Chevron U.S.A.* standard in a civil case to a statute that can be enforced through a criminal prosecution. The opinion in Kelley v. EPA, 15 F.3d at 1107, which was cited by Judge Silberman also failed to address the issue of the applicability of *Chevron U.S.A.* to a statute subject to criminal enforcement. Denying a petition for rehearing of *Kelley v. EPA* in Michigan v. EPA, 38 Env't Rep. Cas. (BNA) 2068 (D.C. Cir. 1994), Judge Silberman indicated that the issue presented in *Kelley* was whether *Chevron U.S.A.* should apply "[w]hen Congress treats an agency only as a prosecutor without specific authority to issue regulations bearing on the questions prosecuted." *Michigan*, 38 Env't Rep. Cas. at 2072. Under the Endangered Species Act, however, Congress has given the Fish and Wildlife Service authority "to promulgate such regulations as may be appropriate to enforce" the Act. 16 U.S.C. § 1533(d) (1988). Because the judges deciding *Sweet Home I*, *Sweet Home II* and *Palila II* applied the *Chevron U.S.A.* standard to determine the validity of the Fish

In *Palila II*, the Ninth Circuit, in addressing the state's argument that the district court erred in interpreting the definition of "harm" under the Endangered Species Act to include habitat destruction that could drive an endangered species to extinction, emphasized that the Secretary of the Interior, when promulgating the redefinition of "harm" in 1981, "noted that harm include[d] not only direct physical injury, but also injury caused by impairment of essential behavior patterns via habitat modification that can have significant and permanent effects on a listed species."[241] The Ninth Circuit also stated that the Secretary of the Interior, in the 1981 notice promulgating the redefinition of "harm," "let stand the district court's construction of harm in *Palila I* . . . [that] include[d] habitat destruction that could result in the extinction of the Palila—exactly the same type of injury at issue here."[242]

The Ninth Circuit concluded that "the district court's inclusion within the definition of harm of habitat destruction that could drive the Palila to extinction falls within the Secretary's interpretation."[243] Thus, the Ninth Circuit implicitly found that the district court deferred to the Fish and Wildlife Service's definition of "harm" and had "not substitute[d] its own construction of a statutory provision," as required by *Chevron U.S.A.*[244]

The Ninth Circuit in *Palila II* then found that the Secretary's inclusion of habitat destruction that could result in extinction within the definition of "harm" "follow[ed] the plain language of the statute, . . . which is 'to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved. . . .' 16 U.S.C. § 1531(b). The definition serves the overall purpose of the Act since it conserves the Palila's threatened ecosystem."[245] The Ninth Circuit also added:

> The Secretary's construction of harm is also consistent with the policy of Congress evidenced by the legislative history. For example, in the Senate Report on the Act: "'Take' is defined in . . . the broadest possible manner to include every conceivable way in which a person can 'take' or attempt to 'take' any fish or wildlife." . . . The House Report said that the "harassment" form of taking would "allow, for

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and Wildlife Service's 1981 redefinition of "harm," this article will not further address the issue of whether a standard other than the *Chevron U.S.A.* standard should be applied by a court to determine the validity of the Service's 1981 redefinition of "harm."

241. 852 F.2d at 1108 (citing 46 Fed. Reg. 54,748, 54,750 (1981) (codified at 50 C.F.R. § 17.3)).

242. *Id.* (citing 46 Fed. Reg. 54,749-50 (1981) (codified at 50 C.F.R. § 17.3) and *Palila I*, 471 F. Supp. at 985).

243. *Id.*

244. 467 U.S. at 844.

245. 852 F.2d at 1108.

> example, the Secretary to regulate or prohibit the activi ties of birdwatchers where the effect of those activities might disturb the birds and make it difficult for them to hatch or raise their young." . . . If the "harassment" form of taking includes activi ties so remote from actual injury to the bird as birdwatching, then the "harm" form of taking should include more direct activities, such as the mouflon sheep preventing any mamane from growing to maturity.[246]

Although the Ninth Circuit did not explicitly find a clear, unambiguous congressional intent on the issue of whether "harm" included significant habitat modification within the meaning of the *Chevron U.S.A.* doctrine, the Ninth Circuit, in analyzing the "plain language" and legislative history of the Endangered Species Act, held that the Fish and Wildlife Service's 1981 redefinition of "harm" was a "reasonable interpretation" and a "permissible construction" of the Act within the meaning of *Chevron U.S.A.*

D. *Validity of the Fish and Wildlife Service's Definition of Harm*

The *Palila II* holding should be followed and upheld by other courts because the Ninth Circuit's deference to the Service's redefinition of "harm" is consistent with the Supreme Court's application of *Chevron U.S.A.* in *United States v. Riverside Bayview Homes, Inc.*[247] In *Riverside Bayview*, the Supreme Court stated that under *Chevron U.S.A.*, judicial review of an agency's interpretation of a statute was "limited to the question whether . . . [the agency's exercise of jurisdiction was] reasonable, in light of the language, policies and legislative history of the Act."[248] The Supreme Court in *Riverside Bayview* upheld, under this *Chevron U.S.A.* standard, Corps of Engineers' regulations broadly defining "waters of the United States" under the Clean Water Act[249] to include certain wetlands. This decision was based on the grounds that the Clean Water Act's legislative history indicated that Congress intended the term "waters of the United States" to have a broad, expansive definition.[250] In *Palila II*, the Ninth Circuit similarly found, after examining the language and the legislative history of the Endangered Species Act, that Congress intended "take" to be construed broadly and to protect the habitat of listed species. This interpretation requires a court to uphold, under the

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246. *Id.* at 1108-09 (citations omitted).
247. 474 U.S. 121 (1985).
248. *Id.* at 131.
249. 33 U.S.C. § 1362(7) (1982).
250. *See* 474 U.S. at 133-34.

principles of *Chevron U.S.A.* and *Riverside Bayview*, the Service's definition of "harm" as including significant habitat modification.

In upholding the Service's definition of "harm," the Ninth Circuit's approach in *Palila II* is also similar to the Supreme Court's approach in *Chevron U.S.A.*, where the EPA's interpretation of a provision[251] of the Clean Air Act, with respect to a situation when the statutory language and legislative history did not address the specific issue in question, was upheld by the Supreme Court as "a reasonable accommodation of manifestly competing interests. . . . [Because] the regulatory scheme is technical and complex, the agency considered the matter in a detailed and reasoned fashion, and the decision involve[d] reconciling conflicting policies."[252] The Endangered Species Act's "regulatory scheme," with respect to takings, similarly can be characterized as "technical and complex"; the Fish and Wildlife Service's 1981 redefinition of "harm" reconciled "conflicting policies" in "a detailed and reasoned fashion."[253]

The Ninth Circuit in *Palila II* also stated, in a footnote that might be interpreted as an alternate ground for holding the Service's definition of "harm" to be valid, that:

> In addition, the Secretary's interpretation is consistent with the presumption that Congress is "aware of an administrative or judicial interpretation of a statute and [adopts] that interpretation when it reenacts a statute without change."[254]

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251. 42 U.S.C. § 7502(b)(6) (1982).

252. 467 U.S. at 865 (footnotes omitted).

253. *Id.*

254. 852 F.2d at 1109 n.6 (citing Lindahl v. Office of Personnel Management, 470 U.S. 768, 782 n.15 (1985) (quoting Lorillard v. Pons, 434 U.S. 575, 580-81 (1978))). The *Pons* case actually dealt with Congress' enactment of a new law that incorporated sections of an earlier law. The Supreme Court in *Pons* also stated that Congress normally can be presumed to have had knowledge of the judicial interpretation given to the earlier law incorporated into the new law, at least insofar as it affects the new statute. 434 U.S. at 581. In *Pons*, the Supreme Court, following the statement quoted in *Lindahl* and *Palila II*, cited Albermarle Paper Co. v. Moody, 422 U.S. 405, 414 n.8 (1975), NLRB v. Gullett Gin Co., 340 U.S. 361, 366 (1951), and National Lead Co. v. United States, 252 U.S. 140, 147 (1920). The *Albermarle Paper Co.* and *Gullett Gin Co.* cases held that Congress, in reenacting a statutory provision, approved of prior judicial or administrative interpretations of the provision, when those judicial or administrative interpretations of the reenacted provision had been cited approvingly in Senate, House or Conference Committee reports on the bill that reenacted the provision at issue. The *National Lead Co.* case upheld an executive department's interpretation of a statutory provision which had been reenacted by Congress, by simply stating that Congress, in reenacting a statutory provision, "is presumed to have legislated with knowledge of such an established usage of an executive department of the Government." 252 U.S. at 147. In *National Lead Co.*, however, unlike *Albermarle Paper Co.* and *Gullet Gin Co.*, the Supreme Court did not refer to citation or discussion of the department's interpretation of the statute in any committee reports on the bill that reenacted the provision at issue.

Apparently relying on this presumption, the Ninth Circuit in *Palila II*, after tracing the evolution of the Service's redefinition of "harm," stated: "Congress presumably was aware of the current interpretation of harm when it amended the Act in 1982. But Congress did not modify the taking prohibition in any matter. Thus Congress' failure to act indicates satisfaction with the current definition of harm and its interpretation by the Secretary and the judiciary."[255]

However, the Ninth Circuit's reliance in *Palila II*, upon a principle that applies when Congress "reenacts a statute without change," was incorrect because the Endangered Species Act's definition of "take" under section 3(19)[256] was not reenacted by Congress in 1982.[257] Consequently, this apparent alternative ground in *Palila II* for upholding the Fish and Wildlife Service's 1981 redefinition of "harm" is not a valid legal argument.[258] However, the Ninth Circuit's reliance upon the *Chevron U.S.A.* doctrine to uphold the Service's 1981 redefinition of "harm" is a sufficient and independent ground for upholding the regulation as valid under the Endangered Species Act.

In 1994, as a result of Judge Stephen F. Williams' change of position, a divided panel of the United States Court of Appeals for the District of Columbia invalidated the Fish and Wildlife Service's inclusion of habitat modification within its definition of "harm" and altered a previous opinion,[259] issued in 1993, that upheld the Fish and Wildlife Service's 1981 redefinition of "harm."[260] A disagreement now

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255. 852 F.2d at 1109 n.6.

256. 16 U.S.C. § 1532(19) (1982).

257. *See* 852 F.2d at 1106, 1109 n.6; Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1472 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). The only amendment in the 1982 Endangered Species Act relating to the Act's takings prohibitions was the enactment of section 10(a)(1)(B), 16 U.S.C. § 1539(a)(1)(B) (1988), which authorized the Fish and Wildlife Service to issue incidental takings permits. *See supra* notes 53-56 and accompanying text; *see also infra* notes 357-63, 428-34 and accompanying text. Furthermore, although a House subcommittee conducting hearings on the 1982 amendments to the Endangered Species Act had notice of the Fish and Wildlife Service's 1981 redefinition of "harm," 50 C.F.R. § 17.3 (1981), and the Ninth Circuit's decision in *Palila I*, 639 F.2d 495 (9th Cir. 1981), neither the Service's redefinition nor *Palila I* were cited approvingly in Senate or House reports on the 1982 amendments or in floor debates on the 1982 amendments, *see* Sweet Home Chapter v. Babbitt, 17 F.3d at 1469, unlike the situation in Albermarle Paper Co. v. Moody, 422 U.S. 405, 414 n.8 (1975); NLRB v. Gullett Gin Co., 340 U.S. 361, 366 (1951). *See supra* note 254.

258. *See infra* notes 364-78 and accompanying text.

259. Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *modified on reh'g*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

260. Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994). Later in 1994, this divided panel, *per curiam*, denied the appellees' petition for rehearing (with Chief Judge Abner Mikva stating that he would grant the petition for rehearing). Sweet Home Chapter v. Babbitt, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). The *en banc* United States Court of Appeals for the District of Columbia denied the appellees' suggestion

exists between the Ninth Circuit and District of Columbia Courts of Appeals as to whether the Fish and Wildlife Service's 1981 regulation redefining "harm" is valid.

E. Sweet Home Chapter v. Babbitt *(Sweet Home I)*

In 1993, the majority of this panel of the United States Court of Appeals for the District of Columbia (per Chief Judge Abner Mikva), rejected, in *Sweet Home Chapter v. Babbitt*[261] (*Sweet Home I*), a facially-void-for-vagueness challenge to the Fish and Wildlife Service's 1981 redefinition of "harm"[262] and held, "*per curiam*, that the 'harm' regulation does not violate the ESA by including actions that modify habitat among prohibited 'takings.'"[263] Writing in *Sweet Home I* for a majority of the panel, Chief Judge Mikva stated that the Fish and Wildlife Service's 1981 redefinition of "harm" would be held facially void for vagueness in such a pre-enforcement challenge[264] only if the regulation was impermissibly vague in all of its applications.[265]

This holding by Chief Judge Mikva was a correct decision. As noted by Chief Judge Mikva in *Sweet Home I*,[266] the Supreme Court has indicated[267] that when a statute or regulation does not affect First Amendment expressive freedoms,[268] the statute or regulation will be

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for rehearing *en banc* (with four judges, including Chief Judge Mikva, dissenting from the denial of rehearing *en banc*). *Id.*

261. 1 F.3d 1 (D.C. Cir. 1993).

262. *Id.* at 3-5.

263. *Id.* at 3. This suit, which was brought by "various organizations, businesses and individuals, who depend directly or indirectly on the timber industry in the Pacific Northwest and in the Southeast for their livelihood," Sweet Home Chapter v. Lujan, 806 F. Supp. 279, 281 (D.D.C. 1992), *aff'd sub. nom.* Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1994), *aff'd in part and rev'd in part*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859), challenged the validity of the Fish and Wildlife Service's 1981 redefinition of "harm," 50 C.F.R. § 17.3 (1988), as well as the Service's regulation, *id.* at § 17.31(a), extending to threatened species the Service's regulations prohibiting takings of endangered species. *See supra* notes 37-45 and accompanying text. The district court rejected the plaintiff's challenges to these two regulations, granted the defendants' motion for summary judgment, and denied the plaintiffs' motion for summary judgment. 806 F. Supp. at 287.

264. The plaintiffs in *Sweet Home I*, who were "not currently the subject of an enforcement action under 50 C.F.R. § 17.3," 1 F.3d at 4, brought a civil suit directly challenging 50 C.F.R. § 17.3 as facially void for vagueness.

265. 1 F.3d at 4.

266. *Id.*

267. *See* Village of Hoffman Estates v. Flipside, 455 U.S. 489, 495, 498 (1982); Smith v. Goguen, 415 U.S. 566, 573 (1974). The *Goguen* case was cited and discussed by Chief Judge Mikva in *Sweet Home I*, 1 F.3d at 4.

268. Chief Judge Mikva did not explicitly hold in *Sweet Home I* that the plaintiff's actions regulated by 50 C.F.R. § 17.3 were not protected First Amendment expressive freedoms, but he did hold that, "the conduct implicated by this case is economic activity," "which modern vagueness cases have invariably afforded less protection" than to First Amendment expressive freedoms. 1 F.3d at 4. Chief Judge Mikva explained that the plaintiffs contended that 50 C.F.R.

held to be facially void for vagueness "only if the enactment is impermissibly vague in all of its applications."[269]

Chief Judge Mikva also noted in *Sweet Home I* that the void for vagueness doctrine requires "regulations with criminal sanctions [to] 'define the criminal offense with sufficient definiteness that ordinary people can understand what conduct is prohibited and in a manner that does not encourage arbitrary and discriminatory enforcement.'"[270] He stated that "[t]his principle, however, does not lead to the conclusion that any person can have a regulation wiped off the books, or prompt a limiting judicial construction of the regulation, merely by

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§ 17.3 would "inhibit their ability to develop their land, especially by harvesting timber," but that "[t]o the degree that [plaintiffs] contend that the regulation results in a 'taking' of their property in the Fifth Amendment sense, their remedy would be compensation, not a voiding of the regulation." 1 F.3d at 4. Kolender v. Lawson, 461 U.S. 352 (1983), states that a statute can be challenged as facially void for vagueness (even when it is not impermissibly vague in all possible applications) when it "reaches, 'a substantial amount of constitutionally protected conduct,'" *id.* at 358 (quoting Village of Hoffman Estates v. Flipside, 455 U.S. 489, 494 (1982)). *Kolender* made clear, however, that such facial vagueness challenges are permitted only "where free speech or free association are affected" by the statute or regulation," 461 U.S. at 358 n.8, because of the Supreme Court's "concern . . . 'upon the potential for arbitrarily suppressing First Amendment liberties.'" *Id.* at 358 (quoting Shuttlesworth v. City of Birmingham, 382 U.S. 87, 90 (1965)). Chief Judge Mikva in *Sweet Home I* similarly concluded that the reference to an enactment implicating "constitutionally protected conduct" in Village of Hoffman Estates v. Flipside, 455 U.S. 489, 495 (1982), was "referring primarily to the First Amendment expressive freedoms, which have long received special protection in vagueness cases." 1 F.3d at 4 (citing Smith v. Goguen, 415 U.S. 566, 573 (1974)).

Even if a facial taking challenge was permitted under *Kolender* when a statute or regulation constituted a taking of property, in violation of the Fifth Amendment of the United States Constitution, and reached a "substantial amount of constitutionally protected conduct" within the meaning of *Kolender*, 461 U.S. at 358, the plaintiffs in *Sweet Home I* neither alleged nor established that the Fish and Wildlife Service's 1981 redefinition of "harm" constituted, in a substantial amount of situations, a Fifth Amendment taking of property without just compensation. The plaintiffs in *Sweet Home I* also did not allege or establish that 50 C.F.R. § 17.3 reached a substantial amount of conduct that was free speech or free association protected under the First Amendment of the United States Constitution. Chief Judge Mikva therefore ruled correctly in *Sweet Home I* that the plaintiffs could not succeed in their facial void for vagueness challenge "unless the regulation is impermissibly vague in all of its applications." 1 F.3d at 4.

269. *Sweet Home I*, 1 F.3d at 4 (quoting Village of Hoffman Estates v. Flipside, 455 U.S. 489, 495 (1982)).

270. *Id.* (quoting Kolender v. Lawson, 461 U.S. 352, 357 (1983)). Although not stated by Chief Judge Mikva in *Sweet Home I*, "the more important aspect of the vagueness doctrine 'is not actual notice, but the other principal element of the doctrine—the requirement that a legislature establish minimal guidelines to govern law enforcement.'" *Kolender*, 461 U.S. at 357 (quoting Smith v. Goguen, 415 U.S. 566, 574 (1974)). Another basic principle of the vagueness doctrine also not discussed by Chief Judge Mikva in *Sweet Home I* is that a statute or regulation "is not unconstitutional merely because it throws upon [persons] the risk of rightly estimating a matter of degree." International Harvester Co. v. Kentucky, 234 U.S. 216, 223 (1914). Consequently, words or phrases in a statute or regulation can be held to be certain enough for vagueness doctrine purposes "notwithstanding an element of degree in the definition as to which estimates might differ." Connally v. General Constr. Co., 269 U.S. 385, 391 (1926).

showing that it will be impermissibly vague in the context of some hypothetical application."[271]

Chief Judge Mikva found in *Sweet Home I* that the provision in the Fish and Wildlife Service's definition of "harm" requiring an act that "actually kills or injures wildlife," and the requirement that the government must prove that a party knowingly violated the statute or regulation in order to establish a civil or criminal violation[272] of the Endangered Species Act's "take" provision, were "features that prevent [the regulation] from being invariably vague as applied."[273] Although the plaintiffs in *Sweet Home I* argued that the Service's definition of "harm" was impermissibly vague in referring to, but not defining, "significant" habitat modification, "significantly" impairing, and "essential" behavioral patterns,[274] Chief Judge Mikva found that "there are obviously types of activity, including habitat modification, that 50 C.F.R. § 17.3 clearly prohibits without a hint of vagueness."[275] He cited, as examples of conduct "obviously" forbidden by the regulation, "habitat modification that causes ascertainable physical injury or death to an individual member of a listed species" and "major acts of habitat degradation that destroy a species' ability to breed, feed, or shelter. For instance, a person aware of the regulation would undoubtedly be held accountable for clear-cutting an entire forested area known to be populated by spotted owls."[276]

Because he correctly concluded that the Fish and Wildlife Service's definition of "harm" was "not vague in all of its applications," Chief Judge Mikva held in *Sweet Home I* that the court "may not declare it void on its face."[277] He noted, however, that "[s]pecific vagueness concerns about the regulation can be addressed when and if they are properly raised in the framework of a concrete challenge to a particular application of the regulation."[278] As stated by the district court in *Sweet Home I*, when a statute or regulation is not impermissibly vague in all of its possible applications, "'[v]agueness

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271. 1 F.3d at 4.

272. 16 U.S.C. §§ 1540(a)-(b) (1988).

273. 1 F.3d at 4. Chief Judge Mikva added, "The Supreme Court has recognized that 'a scienter requirement may mitigate a law's vagueness, especially with respect to the adequacy of notice to the complainant that his conduct is proscribed.'" *Id.* (quoting Village of Hoffman Estates v. Flipside, 455 U.S. 489, 499 (1982)).

274. 1 F.3d at 4.

275. *Id.* at 4-5.

276. *Id.* at 5.

277. *Id.*

278. *Id.*

challenges to statutes which do not involve First Amendment freedoms must be examined in light of the facts of the case at hand.'"[279]

A majority of the panel also held in *Sweet Home I*, "*per curiam*, that the 'harm' regulation does not violate the [Endangered Species Act] by including actions that modify habitat among prohibited 'takings.'"[280] In his opinion for the court, Judge Mikva noted that the plaintiffs argued that Congress did not intend to include habitat modification within "harm" in the Act's definition of "take" and "that the meaning of harm should therefore be limited to direct physical injury to an identifiable member of a listed wildlife species."[281] Judge Mikva also noted, in a separate opinion concurring in this *per curiam* holding, that the plaintiffs in *Sweet Home I* also argued that Congress, although intending under the Endangered Species Act to halt injurious habitat modification, "did not mean to combat habitat degradation on private lands through the prohibition against takings in 16 U.S.C. § 1538 . . . [and] that Congress intended to combat the problem solely through § 1534's provision for federal land acquisition."[282]

Chief Judge Mikva, in his separate concurring opinion, joined the holding that the "harm" definition does not violate the Endangered Species Act on the grounds that "the 'harm' regulation conflicts with neither the [Endangered Species Act] itself nor its ambiguous legislative history and is unquestionably a permissible and reasonable construction of the statute"[283] which a court must uphold under the *Chevron U.S.A.*[284] standard.

He noted in this concurring opinion that the plaintiffs' argument, that the Act's "taking" provision was not intended to include habitat modification, in part was based on the fact that the Endangered Species Bill reported to the Senate by the Senate Commerce Committee in 1973 did not refer to habitat modification in its definition of "take," although the definition of "take" in S. 1983—the first endangered species bill referred to the committee in 1973—included within

279. Sweet Home Chapter v. Lujan, 806 F. Supp. 279, 286 (D.D.C. 1992) (quoting United States v. Mazurie, 419 U.S. 544, 550 (1975)), *aff'd sub nom.* Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *aff'd in part and rev'd in part on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

280. 1 F.3d at 3.

281. *Id.*

282. *Id.* at 8-9 (Mikva, C.J., concurring). 16 U.S.C. § 1534(a) (1988) (authorizing the Secretaries of the Interior and Agriculture—in the case of National Forest System lands—to acquire land as part of "a program to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened species").

283. 1 F.3d at 8 (Mikva, C.J., concurring).

284. Chevron U.S.A., Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984). *See infra* notes 387-99, 434-61 and accompanying text.

the definition of "take" the "destruction, modification, or curtailment of [an endangered species'] habitat or range" in the definition of "take."[285] The plaintiffs argued that the Committee's deletion of references to habitat modification in the reported bill's definition of "take" "evince[d] Congress' intent not to include habitat modification within the scope of prohibited 'takings.'"[286] Chief Judge Mikva, however, found the Act's "legislative history to be most ambiguous regarding whether Congress intended to include habitat modification within the meaning of 'take,'" noting that there was no indication of why the Senate Commerce Committee excluded habitat modification from the definition of "take."[287] He asserted that the Committee may have acted in this manner because the original bill (S. 1983) would have made habitat modification a *per se* taking under the Act. However, he stated that the Committee may not have intended to preclude the Fish and Wildlife Service from adopting, as it did, a regulation providing that habitat modification constitutes a taking when it causes actual injury or death to a protected species.[288] Thus, Chief Judge Mikva found no clear Congressional intent to exclude habitat modification from the Act's definition of "take," noting that the Senate Committee Report on its Endangered Species Bill states that "'[t]ake' is defined . . . in the broadest possible manner to include every

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285. *Id.* at 9 (citing S. 1983, 93d Cong., 1st Sess., § 3(6) (1973)). *See* Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1467 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859); *see infra* notes 343-44 and accompanying text.

286. 1 F.3d at 9 (Mikva, C.J., concurring).

287. *Id.*

288. *Id.* The district court in *Sweet Home I*, whose judgment initially was affirmed by the court of appeals, noted that:

> S. 1983 was only one of two endangered species bills under consideration by the Senate Committee on Commerce at that time. The other bill, S. 1592, defines 'take' exactly as it now appears in the statute. From this legislative history, the Court can conclude no more than that the Senate chose to adopt the definition in one bill over that in another. There is absolutely nothing in the legislative history of the [Endangered Species Act] to indicate that the Senate rejected the definition in S. 1983 specifically because it wanted to exclude habitat modification from the definition of take. In fact, the Senate Report indicates just the opposite, that "take" was being defined "in the broadest possible manner."
>
> It may be, as defendants suggest, that the Senate rejected the definition of "take" in S. 1983 because it did not want habitat modification *per se* to constitute a taking, or it may be that the Senate chose to leave the decision of whether to define takings to include habitat modification in the hands of the Secretary. However, the Court will not rely upon such speculation to deduce legislative intent.

Sweet Home Chapter v. Lujan, 806 F. Supp. 279, 283 (D.D.C. 1992) (emphasis added), *aff'd sub nom.* Sweet Home Chapter v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993), *aff'd in part and rev'd in part*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

conceivable way in which a person can 'take' or attempt to 'take' any fish or wildlife."[289]

The plaintiffs in *Sweet Home I*, in support of their argument that the service's definition of "harm" was invalid, also referred to floor statements[290] by some members of Congress that allegedly suggested that some members of Congress might have desired land acquisition under section 5(a)[291] of the Endangered Species Act to be the sole method under the Act of dealing with habitat modification.[292] The plaintiffs further argued that "Congress *must* have intended land acquisition to be the exclusive mechanism for preventing such habitat modification . . . . Otherwise . . . agency officials would always choose the free alternative of prohibiting a damaging land use under the 'take' provision, rather than paying to acquire the affected land."[293]

Chief Judge Mikva, however, found that "[n]othing in the language of 16 U.S.C. § 1534 or in the legislative history establishes that Congress meant land acquisition to be the only mechanism for habitat protection on private lands."[294] He asserted that the floor statements by individual members of Congress cited by the plaintiffs "'are not a safe guide . . . in ascertaining the meaning and purpose of the law-making body,'"[295] and that the statements cited "do not establish that even the speakers themselves intended land acquisition to be the *exclusive* protective mechanism for habitats on private lands."[296] He also argued that extending the Act's taking prohibition to habitat modification on private land would not make land acquisition under section 5[297] of the Act a nullity. The Act would be valid because federal wildlife managers might wish to acquire private lands, rather than simply forbidding damaging activity on private lands under the Act's taking prohibition, because they could engage in more protective conservation programs on "preserves," "owned and controlled" by the federal government.[298]

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289. 1 F.3d at 9 (Mikva, C.J., concurring) (quoting S. REP. NO. 307, 93d Cong., 1st Sess. 7 (1973)).

290. *Id.* (citing 119 CONG. REC. S25,669 (daily ed. July 24, 1973) (including statement of Sen. Tunney) and 119 CONG. REC. S25,691 (1973) (including statement of Sen. Nelson)).

291. 16 U.S.C. § 1534(a) (1988).

292. *See* 1 F.3d at 9 (Mikva, C.J., concurring).

293. *Id.* (emphasis added).

294. *Id.*

295. *Id.* at 10 (quoting Duplex Printing Press Co. v. Deering, 254 U.S. 443, 474 (1921)).

296. *Id.* (Mikva, C.J., concurring) (emphasis added).

297. 16 U.S.C. § 1534 (1988).

298. 1 F.3d at 10 (Mikva, C.J., concurring). *See* Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1466 (D.C. Cir. 1994); *see infra* notes 341-42 and accompanying text.

Chief Judge Mikva then rejected, in *Sweet Home I,* the plaintiffs' argument that under the *noscitur a sociis* principle of statutory construction[299] the Fish and Wildlife Service must narrowly interpret "harm" to exclude habitat modification. The plaintiffs asserted that the other words used in the Act's definition of "take" do not apply to land use that only indirectly injures wildlife.[300] Chief Judge Mikva rejected the plaintiffs' argument on the grounds that other terms used in the Act's definition of "take," such as "harass," "can limit a private landowner's use of his land in a rather broad manner . . . to suppress activities that are in no way intended to injure an endangered species."[301]

Finally, Chief Judge Mikva concluded in his concurring opinion in *Sweet Home I* that the enactment by Congress in 1982 of section 10(a)(1)(B)[302] of the Act "strongly suggests that Congress did in fact intend to include habitat modification within the meaning of 'take.'"[303] Section 10(a)(1)(B) of the Act authorizes the Fish and Wildlife Service to issue a permit authorizing any "taking otherwise prohibited by [16 U.S.C. § 1538 (a)(1)(B)] if such taking is incidental to, and not [sic] the purpose of, the carrying out of an otherwise lawful activity."[304] Chief Judge Mikva found that Congress' enactment of section 10(a)(1)(B), which authorizes the issuance of a permit for "incidental takings," "implicitly confirmed" that incidental takings, which he interprets as including habitat modification,[305] "were otherwise forbidden by the Act."[306]

Chief Judge Mikva concluded his concurring opinion in *Sweet Home I* by stating that "[o]verall, there is nothing in the [Endangered

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299. "[U]nder the principle of statutory construction known as *noscitur a sociis*, a general term in a list should be interpreted narrowly 'to avoid the giving of unintended breadth to the Acts of Congress.'" 1 F.3d at 10 (Mikva, C.J., concurring) (quoting Jarecki v. G.D. Searle & Co., 367 U.S. 303, 307 (1961)) (emphasis added).

300. *Id.* (Mikva, C.J., concurring).

301. *Id.*; *see infra* notes 311, 316, 326-39, 400-10 and accompanying text.

302. 16 U.S.C. § 1539(a)(1)(B) (1988).

303. 1 F.3d at 10 (Mikva, C.J., concurring).

304. Under section 10(a)(1)(B), a person "whose activities might incidentally 'take' members of an endangered species can get *advance* protection from legal liability, but only if they convince the Secretary that [their habitat conservation] plan uses the maximum devices possible to mitigate and minimize species loss, and that the resulting losses will not unduly harm the species." Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1468 (D.C. Cir. 1994) (emphasis added). *See supra* notes 53-56 and accompanying text.

305. *See* 1 F.3d at 11 (Mikva, C.J., concurring) ("[I]t is hard to imagine what 'incidental takings' might be other than habitat modification.").

306. *Id.*; *see infra* notes 309-11 and accompanying text; *see also* Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1467-69 (D.C. Cir. 1994), *cert. granted,* 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859); *id.* at 1477-78 (Mikva, C.J., dissenting); *see also infra* notes 357-66, 428-34 and accompanying text.

Species Act] or in its legislative history that unambiguously demonstrates that the term 'take' does not encompass habitat modification"[307] and that "*Chevron* commands that unless it is absolutely clear that an agency's interpretation of a statute, entrusted to it to administer, is contrary to the will of Congress, courts must defer to that interpretation so long as it is reasonable."[308]

Judge Stephen Williams also wrote a separate opinion in *Sweet Home I* concurring in section II(A)(1) of the majority's opinion, in which he stated that he agreed that the Service's definition of "harm" "complies with the Endangered Species Act--but only because of the 1982 amendments to the [Act]."[309] Judge Williams added that the enactment in 1982 of section 10(a)(1)(B), authorizing permits for incidental takings, "support[s] the inference that the [Endangered Species Act] otherwise forbids some such incidental takings, including some habitat modification."[310] He concluded his concurring opinion, however, by stating that "but for the 1982 amendments, I would find Judge Sentelle's analysis highly persuasive—including his discussion of the *noscitur a sociis* canon."[311]

Judge Sentelle dissented in *Sweet Home I*, arguing that while the *Chevron U.S.A.* doctrine requires a court to defer to an agency's reasonable and consistent interpretation of a statute, which is silent or ambiguous with respect to the issue,[312] he could "see no reasonable way that the term 'take' can be defined to include 'significant habitat modification or degradation' as it is defined in 50 C.F.R. § 17.3."[313] He analogized the Fish and Wildlife Service's definition of "harm" to a hypothetical agency regulation, prohibiting "chewing and spitting of tobacco," purportedly promulgated under a federal statute authorizing the posting of "No Smoking" signs, under which "smoking" was defined to include "lighting, burning, puffing, inhaling, and otherwise employing the noxious nicotine-bearing tobacco products."[314] He argued that in both the case of the Fish and Wildlife

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307. 1 F.3d at 11.

308. *Id.* (quoting Chevron U.S.A. v. Natural Resources Defense Council, 467 U.S. 837, 844 (1984)).

309. *Id.* at 11 (Williams, J., concurring).

310. *Id.*

311. *Id.* (citing RLEA v. NMB, 988 F.2d 133, 144 (D.C. Cir. 1993) (Williams, J., dissenting) (characterizing the canon as a "powerful linguistic norm")).

312. *Id.* (Sentelle, J., dissenting).

313. *Id.* at 12 (interpreting 50 C.F.R. § 17.3 (1993). Judge Sentelle asserted that the second prong of the *Chevron U.S.A.* doctrine places limits on the judiciary's power to question administrative actions. *Id.* (citing Nuclear Info. Resources Serv. v. Nuclear Regulatory Comm'n, 986 F.2d 1169, 1173 (D.C. Cir. 1992) (en banc)).

314. *Id.* at 11-12.

Service's definition of "harm" and his hypothetical regulation, the agency engaged in an "unreasonable expansion of terms."[315]

Judge Sentelle also invoked the *noscitur a sociis* principle of statutory construction. He argued that all the terms other than "harm" that are used in the definition of "take" under the Endangered Species Act:

> relate to an act which a specifically acting human does to a specific individual representative of a wildlife species. In fact, they are the sorts of things an individual . . . commonly does when he intends to "take" an animal. Otherwise put, if I were intent on taking a rabbit, a squirrel, or a deer, as the term "take" is used in common English parlance, I would go forth with my dogs or my guns or my snares and proceed to "harass, . . . pursue, hunt, shoot, wound, kill, trap, capture, or collect" one of the target species. 16 U.S.C. § 1532(19). If I succeeded in that endeavor, I would certainly have "taken" the beast. If I failed, I would at least have "attempt[ed] to engage in . . . such conduct."[316]

According to Judge Sentelle, the unreasonableness of the Fish and Wildlife Service's definition of "harm" was not alleviated by the statement in the Senate Commerce Committee's report that "'take' is defined . . . in the broadest possible manner,"[317] because that legislative history did not convince him that Congress "intended to deprive the definition of any bounds whatsoever and turn the word into a free form concept inclusive of anything an agency might wish it to cover."[318]

Finally, Judge Sentelle asserted that the Service's definition of "harm" violated "the presumption against surplusage" principle of statutory construction.[319] The Service's definition of "harm" made every other term in the Act's definition "superfluous" since "[e]very single one of those acts . . . falls within the definition of 'harm' as understood by the agency."[320]

F. Sweet Home Chapter v. Babbitt *(Sweet Home II)*

On petition for rehearing, Judge Sentelle's position in *Sweet Home I* prevailed, with Judge Williams changing his earlier position, without

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315. *Id.* at 12.

316. *Id.* at 12 & n.1 ("The only word replaced by ellipses is "harm," the word under examination."); *see also infra* notes 328-39, 400-08 and accompanying text.

317. *Id.* at 12 (quoting S. REP. NO. 307, 93d Cong., 1st Sess. 7 (1973)).

318. *Id.* at 13 (Sentelle, J., dissenting).

319. *Id.*

320. *Id.*

additional oral arguments or additional briefing.[321] Judge William's majority opinion in *Sweet Home II* held "invalid the Fish & Wildlife Service regulation defining 'harm' to embrace habitat modifications."[322] In *Sweet Home II*,[323] Judge Williams held that the Service's regulation defining "harm" was invalid because the definition "was neither clearly authorized by Congress nor a 'reasonable interpretation' of the statute, see *Chevron U.S.A. Inc. v. Natural Resources Defense Council*, . . . [and] no later action of Congress supplied the missing authority."[324]

Although Judge Williams referred to the *Chevron U.S.A.* doctrine in the court's *Sweet Home II* holding, his decision invalidating the Fish and Wildlife Service's definition of "harm" violated the *Chevron U.S.A.* doctrine. The court violated *Chevron U.S.A.* because it erroneously imposed its own construction of the statute's definition of "harm" instead of deferring to the Service's reasonable interpretation of "harm."[325] In reversing his earlier position, Judge Williams first relied on the *noscitur a sociis* maxim of statutory construction.[326] After concluding that the word "harm" could be broadly and variously construed "[a]s a matter of pure linguistic possibility,"[327] Judge Williams found that all of the words except "harm" in the Endangered Species Act's definition of "take" "contemplate the perpetrator's direct

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321. *See* Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1473 (D.C. Cir. 1994) (*Sweet Home II)* (Mikva, C.J., dissenting) *reh'g denied,* 30 F.3d 190 (D.C. Cir. 1994), *cert. granted, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).*

322. *Id.* at 1472. Later in 1994, this divided panel, *per curiam*, denied the appellees' petition for rehearing. Sweet Home Chapter v. Babbitt, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). Judge Williams issued a statement, which was joined by Judge Sentelle, in support of his vote to deny the petition for rehearing; this statement defended and interpreted his decision in *Sweet Home II. Id.* at 191-93. Chief Judge Mikva stated that he would grant the petition for rehearing. *Id.* at 191. At the same time that the panel denied the appellees' petition for rehearing, the *en banc* United States Court of Appeals of the District of Columbia denied the appellees' suggestion for rehearing *en banc. Id.* at 191. Four judges, including Chief Judge Mikva, dissented from the denial of rehearing *en banc. Id.* at 194.

On January 6, 1995, the United States Supreme Court granted the federal government's petition for certiorari in this case to address the validity on its face of the Fish and Wildlife Service's regulation that makes significant habitat modification a prohibited taking under the Endangered Species Act. Babbitt v. Sweet Home Chapter, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-854). Oral arguments in this case are expected to be scheduled for April 1995.

323. Sweet Home Chapter v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994) (*Sweet Home II*), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

324. *Id.* at 1464 (citing Chevron U.S.A. Inc. v. Natural Resources Defense Council, 467 U.S. 837, 842-44 (1984)). Chief Judge Mikva, who wrote the opinion for the court in *Sweet Home I*, 1 F.3d 1 (D.C. Cir. 1993), dissented in *Sweet Home II,*, 17 F.3d at 1473-78 (Mikva, C.J., dissenting).

325. *See Chevron U.S.A.*, 467 U.S. at 844.

326. 17 F.3d at 1465; *see supra* notes 299-301, 311, 316 and accompanying text; *see also infra* notes 400-14 and accompanying text.

327. 17 F.3d at 1464.

application of force against the animal taken,"[328] although in some cases "the application of force may not be instantaneous or immediate, and the force may not involve a bullet or blade."[329]

Judge Williams then approvingly discussed *United States v. Hayashi*,[330] where the Ninth Circuit Court of Appeals interpreted the term "harass" in the definition of "take" under the Marine Mammal Protection Act.[331] The court in *Hayashi* held that the defendant's firing of a rifle into water behind porpoises did not "harass" the porpoises in violation of the Marine Mammal Protection Act, because the defendant's acts were not "direct and significant intrusions upon the mammal's ordinary activities."[332] The Ninth Circuit in *Hayashi* reasoned that:

> The [Marine Mammal Protection Act] (MMPA) groups "harass" with "hunt," "capture," and "kill" as forms of prohibited "taking." The latter three each involve direct, sustained, and significant intru sions upon the normal, life-sustaining activities of a marine mam mal; killing is a direct and permanent intrusion, while hunting and capturing cause significant disruptions of a marine mammal's natural state. Consistent with these other terms, "harassment," to constitute a taking under the MMPA, must entail a similar level of direct and sustained intrusion.[333]

Judge Williams asserted in *Sweet Home II* that:

> [T]he nine verbs accompanying "harm" [in the Endangered Species Act's definition of "take"] all involve a substantially direct application of force, which the Service's concept of forbidden habitat modification altogether lacks.[334]

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328. *Id.* at 1465.

329. *Id.* Judge Williams added:

> In the case of "pursue", the perpetrator does not necessarily catch or destroy the animal, but pursuit would always or almost always be a step toward deliberate capture or destruction, and so would be picked up by § 1532(19)'s reference to "attempt[s]". While one may "trap" an animal without being physically present, the perpetrator will have previously arranged for release of energy that directly captures the animal. And one may under some circumstances "harass" an animal by aiming sound or light in its direction, but the waves and particles are themselves physical forces launched by the perpetrator.

Id.

330. 5 F.3d 1278 (9th Cir. 1993).

331. 17 F.3d at 1465 (citing *Hayashi*, 5 F.3d at 1282). Under the Marine Mammal Protection Act, which makes it unlawful for any person to take a marine mammal, 16 U.S.C. 1372(a)(2)(A) (1988), "take" is defined as activity which may "harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." 16 U.S.C. § 1362(13) (1988).

332. 5 F.3d at 1282.

333. *Id.*

334. 17 F.3d at 1465. "Of course, each of the terms in the 'take' definition itself implies some degree of habitat modification. Setting a trap for an animal certainly modifies its habitat,

In effect, Judge Williams in *Sweet Home II* held that to "take" a protected species in violation of the Endangered Species Act, a person must exert direct force (although not necessarily instantaneous or immediate force) against a protected animal.[335] Under this reasoning, killing or injuring an animal indirectly through habitat modification can never be held to be a "take" of a protected species under the Endangered Species Act, as "harm," "harass," or any of the other terms used in the Act to define "take."[336]

Judge Williams, in further support of this interpretation of "take" under the Act, asserted in *Sweet Home II* that "[t]he implications of the Service's definition suggest its improbable relation to congressional intent."[337] After noting the large amount of land that may be needed for the survival of the grizzly bear and the criminal penalties for knowing violations of the Endangered Species Act's takings prohibitions, Judge Williams stated that "the gulf between the Service's habitat modification concept of 'harm' and the other words of the statutory definition, and the implications in terms of the resulting extinction of private rights, counsel application of the maxim *noscitur a sociis*."[338] Judge Williams asserted that "the Service's interpretation

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as in a slightly different sense, does firing bullets at it. This obviously does not imply that habitat modifications as the Service uses the term are also encompassed." *Id.* at 1465 n.1.

335. *Id* at 1465.

336. Although not cited by Judge Williams in his opinion in *Sweet Home II*, California v. Watt, 520 F. Supp. 1359 (C.D. Cal. 1981), *aff'd in part and rev'd in part on other grounds*, 683 F.2d 1253 (9th Cir. 1982), *rev'd in part on other grounds sub nom.* Secretary of Interior v. California, 464 U.S. 312 (1984), adds support to his claim that the Endangered Species Act requires direct application of force against a protected animal. In *California v. Watt*, the court held that the proposed leasing of tracts on the Outer Continental Shelf, for oil and gas exploration, did not constitute a "take" under the Endangered Species Act, either as "harm," "attempted harm," or "harass," under the Fish and Wildlife Service's 1975 definitions of those terms, *see supra* notes 128-48 and accompanying text, even assuming that the leasing constituted a threat to the continued survival of a species protected under the Endangered Species Act, because the Act requires a more immediate injury. 520 F. Supp. at 1387.

337. 17 F.3d at 1465.

338. *Id.* Judge Williams later explained in his statement (joined by Judge Sentelle) in denying the appellees' petition for rehearing of *Sweet Home II*, that this

> grizzly example . . . makes quite clear that the panel understood that the regulation addressed habitat modifications that would be fatal to members of the species. It refers to a contention that "as many as 35 million to 42 million acres of land are *necessary to the survival* of grizzlies." If that habitat is "necessary to [the grizzlies'] survival," then any material curtailment must involve death for members of the species.

Sweet Home Chapter v. Babbitt, 30 F.3d 190, 191 (D.C. Cir. 1994) (statement of Williams, J.) (citations and footnote omitted) (quoting *Sweet Home II*, 17 F.3d at 1465), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

appears to yield precisely the 'unintended breadth' that use of the maxim properly prevents."[339]

An additional reason given by Judge Williams in support of his holding in *Sweet Home II* was that "[t]he [Endangered Species] Act addresses habitat preservation in two ways—the federal land acquisition program and the directive to federal agencies to avoid adverse impacts."[340] Judge Williams found that the legislative history with respect to the Endangered Species Act's federal land acquisition program "confirms the intention to assign the primary task of habitat preservation to the government."[341] "[T]he floor managers [of the House and Senate versions of the Endangered Species Act of 1973] differentiated loss of habitat from the hazard that was the target of the 'taking' ban and the other prohibitions of § 9."[342] He then stated that

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339. 17 F.3d at 1465 (noting that the Supreme Court stated in Janecki v. G.D. Searle & Co., 367 U.S. 303, 307 (1961), that this maxim is usually applied to avoid giving an unintended breadth to Congress' Acts when a word is ambiguous); *see supra* notes 299-301, 311, 316 and accompanying text; *see also infra* notes 400-08 and accompanying text. Judge Williams in *Sweet Home II* referred to the statement in Dole v. Steelworkers, 494 U.S. 26, 36 (1990), that "words grouped in a list should be given related meaning." 17 F.3d at 1466.

340. 17 F.3d at 1466. The federal land acquisition program to which Judge Williams referred is pursuant to section 5 of the Endangered Species Act, 16 U.S.C. § 1534 (1988). The directive to federal agencies to avoid adverse impacts to which Judge Williams referred is in section 7 of the Act, *id.* § 1536. *See supra* notes 114-27 and accompanying text.

341. 17 F.3d at 1466. Judge Williams referred to floor statements by R epresentative Sullivan, the floor manager of the House version of the Endangered Species Act of 1973 in which Representative Sullivan stated that H.R. 37 (the house version of the Endangered Species Act of 1973):

> will meet this problem [of adverse impacts on wildlife from destruction of their habitat] by providing funds for acquisition of critical habitat through the use of the land and water conservation fund. It will also enable the Department of Agriculture to cooperate with willing landowners who desire to assist in the protection of endangered species, but who are understandably unwilling to do so at excessive cost to themselves.

Id. (quoting 119 Cong. Rec. H30,162 (daily ed. Sept. 18, 1973) (statement of Rep. Sullivan)). According to Judge Williams, "Representative Sullivan saw the Act as providing duties for the government [for habitat modification], with private persons acting only in the form of 'willing landowners' assisted by the Department of Agriculture." *Id.* Judge Williams also quoted the following statement by Senator Tunney, the floor manager of the Senate version of the Endangered Species Act of 1973: "Through these land acquisition provisions, we will be able to conserve habitats necessary to protect fish and wildlife from further destruction." *Id.* (quoting 119 Cong. Rec. S25,669 (daily ed. July 24, 1973) (statement of Sen. Tunney)); *see supra* notes 290-98 and accompanying text.

342. 17 F.3d at 1466. In support of this latter statement, Judge Williams once again quotes:

"Congress's deliberate deletion of habitat modification from the definition of 'take' strengthens . . . [the] conclusion,"[343] and that "in rejecting the Service's understanding of 'take' to encompass habitat modification, 'we are mindful that Congress had before it, but failed to pass, just such a scheme.'"[344]

Judge Williams, in his subsequent statement (joined in by Judge Sentelle) in denying the appellees' petition for rehearing of *Sweet Home II*, noted that:

> The government argues that the panel misstated the legislative history when it suggested a parallel between the ban on habitat modification retained in the Act as applied to federal government actors, 17 F.3d at 1466, and the "habitat modification" explicitly deleted [in § 9] from the draft provision governing private actors, id. at 1467. See Petition at 8. The panel made the point both in noting the apparent structure of the Act (contrasting the imposition of "very broad burdens" on a narrow segment of society, the federal government, and relatively narrow burdens on all others), and in suggesting the significance of the Senate Committee's deletion of the bill's reference to "habitat modification" as one of the ways in which a person might "take" members of an endangered species. The suggested parallelism is false, says the government, because the statutory ban on habitat modifications by federal agencies is far

> *Another* hazard to endangered species arises from those who would capture or kill them for pleasure or profit. There is no way that the Congress can make it less pleasurable for a person to *take* an animal, but we can certainly make it less profitable for them to do so.

Id. (quoting 119 CONG. REC. H30,162 (daily ed. Sept. 18, 1973) (statement of Rep. Sullivan) (emphasis added by Judge Williams)). Judge Williams then quoted the following floor statement by Senator Tunney:

> Although most endangered species are threatened primarily by the destruction of their natural habitats, a significant portion of those animals are subject to *predation by man for commercial, sport, consumption, or other purposes.* The provisions in S. 1983 would prohibit the commerce in or the importation, exportation, or taking of endangered species except where permitted by the Secretary.

17 F.3d at 1466-67 (quoting 119 CONG. REC. S25,669 (daily ed. July 24, 1973) (emphasis added by Judge Williams)).

343. 17 F.3d at 1467. Judge Williams then discussed the fact that S. 1983, as introduced to the Senate Commerce Committee in 1973, defined "take" to include "the destruction, modification, or curtailment of [a species'] habitat or range," *id.*, but that the definition of "take" in the version of the Endangered Species Bill reported out of the Committee to the Senate deleted the language in the original version of S. 1983 referring to habitat modification. *Id.* (citing 119 CONG. REC. S25,663 (daily ed. July 24, 1973) (statement of Sen. Tunney)); *see supra* notes 285-89 and accompanying text.

344. 17 F.3d at 1467 (quoting John Hancock Mutual Life Ins. Co. v. Harris Trust & Sav. Bank, 114 S. Ct. 517, 526 (1993)).

> broader, reaching such modifications "whether destruction of the habitat would actually kill or injure the species." [345]

Judge Williams responded in this statement by asserting that "the government misrepresents,"[346] and first concluded that section 7(a)(2)'s prohibition of "destruction or adverse modification of habitat . . . which is determined . . . to be critical,"[347] "seems to be simply another way of referring to habitat modifications so significant to the species that they might lead to death, or at least some very serious injury, for members of the species."[348] Judge Williams also stated an inability "to discern any substantive, operational difference" between the Service's regulations [50 C.F.R. § 17.94 (1993)] governing "modifications of 'critical' habitat," and the Service's regulations defining "harm" under section 9 to include habitat modification.[349] Judge Williams in this statement also referred to "the virtual identity between what the Senate deleted from § 9 and what it retained in § 7."[350] He said this was recognized by Michael Bean, Senior Counsel for the Environmental Defense Fund, when Bean wrote that "'if 'taking' comprehends habitat destruction, then it is at least doubtful whether Section 7 of the Act is even necessary.'"[351]

Section 7, however, imposes procedures upon federal agencies that are designed to protect endangered and threatened species.[352] These procedures are not imposed upon persons under section 9 of the Endangered Species Act. Consequently, section 9 does not simply duplicate section 7(a)(2) if section 9 is interpreted to prohibit habitat modifications proscribed by the Fish and Wildlife Service's 1981 redefinition of "harm."

Judge Williams' analysis in denying the appellees' petition for rehearing in *Sweet Home II* also ignores the differences in habitat protection under sections 7 and 9 discussed previously in this article.[353] In particular, Judge Williams fails to discuss section 7(a)(2)'s alternative prohibition of conduct that may "jeopardize the continued existence of any endangered or threatened species,"[354] and he also fails to consider the significance of the fact that section 7 of the Endangered

345. Sweet Home Chapter v. Babbitt, 30 F.3d 190, 192 (D.C. Cir. 1994) (statement of Williams, J.) (citation omitted), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

346. *Id.*

347. 16 U.S.C. § 1536(a)(2) (1988).

348. 30 F.3d at 192.

349. *Id.*; *see supra* notes 125-27 and accompanying text.

350. 30 F.3d at 192.

351. *Id.* (quoting MICHAEL J. BEAN, THE EVOLUTION OF NATURAL WILDLIFE LAW 397 (1977)).

352. *See supra* note 117.

353. *See supra* notes 114-27 and accompanying text.

354. *See supra* notes 116-17, 121-24 and accompanying text.

Species Act only applies to actions "authorized, funded or carried out" by a federal agency, whereas section 9 applies to any person, including private individuals, corporations, and state and local governments and their agents and employees.[355] Even if in some situations habitat modification might be prohibited by both sections 9 and 7(a)(2) of the Endangered Species Act, Congress is not prohibited from subjecting the same act to regulation and/or punishment (even criminal) under two different statutory provisions.[356]

Judge Williams' opinion in *Sweet Home II*, also examined the significance of the 1982 amendments to the Endangered Species Act.

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355. *See supra* notes 118-20 and accompanying text.

Judge Williams also argued, in his subsequent statement in support of denial of the appellees' petition for rehearing of *Sweet Home II*, that "[t]o the extent that there may be some theoretical difference between habitat modification under § 7 and under the Department's regulations purporting to implement § 9, practical realties limit . . . [§ 9's] role to pure theory," Sweet Home Chapter v. Babbitt, 30 F.3d 190, 192 (D.C. Cir. 1994) (statement of Williams, J.), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859), because modification that would constitute a prohibited taking under the Service's 1981 redefinition of "harm" may only proceed pursuant to an "incidental taking" permit under section 10(a), 16 U.S.C. § 1539(a) (1988), of the Endangered Species Act, *see supra* notes 54-56 and accompanying text, and because "the Department [of Interior] explicitly recognizes the restrictions that it imposes under § 10 (a) as 'equivalent' to those it imposes under § 7 to protect 'critical habitat.'" 30 F.3d at 192-93 (citing Special Rule Concerning Take of the Threatened Coastal California Gnatcatcher, 58 Fed. Reg. 65,088-90 (Dec. 10, 1993) (to be codified at 50 C.F.R. pt. 17) (taking permitted under a § 10(a) plan for California gnatcatcher "'will not appreciably reduce the likelihood of survival and recovery of the gnatcatcher in the wild; this criteria is equivalent to the regulatory definition of 'jeopardy' under section 7(a)(2) of the Act'").

Judge Williams' assertion, that habitat conservation plans under section 10(a) incidental taking permits are equivalent to restrictions imposed under section 7 to protect "critical habitat," is not supported by the citation to the gnatcatcher special rule, however, because the quotation from the special gnatcatcher rule refers to the jeopardy clause of section 7(a)(2), a clause which is separate and distinct from section 7(a)(2)'s prohibition of the destruction or alteration of designated critical habitat. *See supra* note 117 and accompanying text. Even if this assertion by Judge Williams is correct, section 7(a)(2) would not prohibit modification of a species' habitat that is *not* designated critical habitat unless the habitat modification would violate section 7(a)(2)'s prohibition against action that may jeopardize the continued existence of a species (by threatening the species with extinction). *See supra* notes 121-24 and accompanying text.

Judge Williams' assertion in this statement also fails to recognize, as does Judge Williams' earlier opinion in *Sweet Home II*, *see infra* notes 360-63 and accompanying text, that if section 9 does not apply to habitat modification, habitat conservation plans under section 10(a) incidental take permits would not regulate habitat modification. Also, section 7(a)(2) would regulate the modification of habitat only if the modification was caused by "action authorized, funded, or carried out" by a federal agency and the habitat modification either may threaten the continued existence of the species or would destroy or adversely modify designated critical habitat. Section 7(a)(2) does not regulate modification of habitat that has not been designated as critical habitat and which would not threaten the species with extinction. *See supra* notes 114-27 and accompanying text.

356. *See* United States v. Halper, 490 U.S. 435, 448-49 (1989) (stating that Congress is not prohibited by Double Jeopardy Clause of the Fifth Amendment of the United States Constitution from subjecting a person to criminal punishment under one statute, and remedial civil sanctions under another statutory provision *for the same* act).

He noted that "the only legislative *act* [in 1982] from which the government claims support" was the enactment in 1982 of sections 10 (a)(1)(B) & (a)(2)[357] of the Endangered Species Act, which authorize the Fish and Wildlife Service to issue incidental take permits.[358] He concluded that these 1982 amendments had neither sufficiently "altered the *context* of the definition of 'take' as to render the Services's [sic] interpretation reasonable, or even, conceivably, to reflect express congressional adoption of that view," nor, by bringing "the Service's regulation and a judicial interpretation to the attention of a . . . subcommittee, [did they] constitute[ ] a ratification of the regulation."[359]

Judge Williams held in *Sweet Home II* that the incidental taking permits authorized by section 10 (a)(1)(B) of the Endangered Species Act do not include the habitat modifications included within the Fish and Wildlife Service's definition of "harm."[360] He found that "the problem of incidental takings" are posed by "[h]arms involving the direct applications of force that characterize the nine other verbs of § 1532 (19)," such as when "[t]he trapping of a nonendangered animal . . . may incidentally trap an endangered species."[361] He stated that "the key example of the sort of problem to be corrected by § 10(a)(1)(B) involved the *immediate destruction* of animals that would be *trapped* by a human enterprise," where eggs of a protected species would be immediately destroyed by being crushed or captured "as a direct result of a human enterprise," when entrained or impinged by a nuclear power plant water intake structure.[362] Judge Williams concluded his analysis of this issue by finding that the enactment of the section 10(a)(1)(B) incidental taking permit provision "involved no assumptions supporting the Service's position on habitat modification. So far as the creation of the permit plan is concerned, the implicit assumptions simply do not embrace the idea that 'take' included any significant habitat modification injurious to wildlife."[363]

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357. 16 U.S.C. §§ 1539 (a)(1)(B) & (a)(2) (1988).

358. *See supra* notes 54-56, 302-06, 310-11 and accompanying text; *see also infra* notes 428-34 and accompanying text.

359. 17 F.3d at 1467 (emphasis added). In addition, Senator Garn in 1982 withdrew a proposed bill that would have been "a wholesale 'rewrite,'" of the Endangered Species Act and would have excluded "effects from normal forestry, farming, ranching, or water management practices," from the Act's definition of "take." *Id.* at 1469 & n.3. Judge Williams concluded in *Sweet Home II* that "[t]he record reveals nothing to suggest any relation between Senator Garn's decision and congressional sentiment on the habitat modification issue." *Id.* at 1469.

360. *Id.* at 1467-68.

361. *Id.* at 1467.

362. *Id.* (emphasis added).

363. *Id.* at 1468.

Regarding the federal government's alternative theory that Congress in 1982 ratified the Fish and Wildlife Service's definition of "harm" in the process of amending the Endangered Species Act, Judge Williams in *Sweet Home II* interpreted references in the 1982 Conference Report[364] regarding the 1982 amendments to "habitat conservation" under section 10 (a) of the Act, as referring to the fact "that *relief* under the § 10 (a) permit scheme would include habitat conservation [and] does not imply an assumption that *takings* encompass habitat modification."[365] Judge Williams added that "although § 10(a) relief contemplates advancing 'the interest of endangered species', it does not follow that every act detrimental to an endangered species constitutes a forbidden taking."[366]

Judge Williams also held that awareness by a congressional subcommittee of the Service's redefinition of "harm" and of the Ninth Circuit's *Palila I* decision,[367] upholding the application of the Endangered Species Act to habitat modification, would not be interpreted as ratification by Congress of the Service's 1981 redefinition of "harm,"[368] when there was no showing that "congressional awareness of the Service's regulation or of *Palila* [*I*] reached the floor of either House."[369] He based this holding on analysis[370] of decisions by the United States Supreme Court[371] and the United States Court of Appeals for the District of Columbia,[372] which he concluded "may ultimately not be fully reconcilable."[373] These decisions address the

364. *Id.* (citing H.R. REP. NO. 835, 97th Cong., 2d Sess. 30-31 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2871-72).

365. 17 F.3d at 1468 (emphasis added).

366. *Id.* at 1469. Judge Williams, later in his opinion in *Sweet Home II*, added that Congress' "creation of the permit scheme is fully consistent with the meaning of 'take' as enacted in 1973." *Id.* at 1472.

367. Palila v. Hawaii Dep't of Land of & Natural Resources, 639 F.2d 495 (9th Cir. 1981). *See supra* notes 137-48 and accompanying text.

368. 17 F.3d at 1472.

369. *Id.* at 1469.

370. *Id.* at 1469-72.

371. *Id.* (citing Girouard v. United States, 328 U.S. 61 (1946); Mackey v. Lanier Collection Agency & Serv., Inc., 486 U.S. 825 (1988); Shearson/American Express, Inc. v. McMahon, 482 U.S. 220 (1987); Commodity Futures Trading Comm'n v. Schor, 478 U.S. 833 (1986); United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985); Bob Jones Univ. v. United States, 461 U.S. 574 (1983); Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978); United States v. Board of Comm'rs, 435 U.S. 110 (1978)).

372. 17 F.3d at 1471 (citing Ohio v. U.S. Dep't of the Interior, 880 F.2d 432 (D.C. Cir. 1989)).

373. 17 F.3d at 1472.

Judge Williams, however, did not refer to the apparent alternative holding in Palila v. Hawaii Dep't of Land & Natural Resources, 852 F.2d 1106 (9th Cir. 1988), that "Congress' failure" to "modify the taking prohibition in any matter . . . indicates satisfaction with the current definition of harm and its interpretation by the Secretary and the judiciary" and that "the Secretary's interpretation is consistent with the presumption that Congress is 'aware of an administrative or judicial interpretation of a statute and [adopts] that interpretation when it re-

issue of when Congress' action or inaction constitutes ratification of an earlier judicial or administrative agency interpretation of a statute.

Judge Williams concluded that "[a]lthough the precedents are hardly in perfect harmony, the Supreme Court has generally refused to infer ratification from mere amendment of adjacent clauses in these circumstances."[374] He also added that "[a]s [Congressional] inaction is inadequate to *repeal* a law, it should be inadequate to *modify* a law. Yet modification is required to sustain an interpretation that is invalid as against the original legislation."[375] He asserted:

> that the cases drawing inferences from [Congress'] inaction typi cally fail to address the serious jurisprudential problems of doing so—especially those captured in Judge Wald's observation that there are

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enacts a statute without change.'" *Id.* at 1109 & n.6 (quoting Lindahl v. Office of Personnel Management, 470 U.S. 768, 782 n.15 (1985)); *see supra* notes 254-58 and accompanying text. Judge Williams also failed to cite or analyze *Lindahl* in his opinion for the court in *Sweet Home II.*

In his analysis of decisions dealing with whether congressional action or inaction constitutes ratification of an earlier judicial or administrative interpretation of a statute, Judge Williams in *Sweet Home II* stated:

> "Although we are chary of attributing significance to Congress' failure to act, a refusal by Congress to overrule an agency's construction of legislation is at least some evidence of the reasonableness of that construction, particularly where the administrative construction has been brought to Congress' attention through legislation specifically designed to supplant it."

17 F.3d at 1471 (quoting United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985)). Judge Williams, however, did not explicitly apply this principle to the facts of the case in *Sweet Home II.* He failed to consider that Congress' failure to amend the Act's definition of "take" in 1982, when members of a congressional subcommittee had knowledge of the Service's 1981 redefinition of "harm" and the *Palila I* decision, was at least some evidence of the reasonableness of the Service's interpretation of the Act. *See id.* at 1469.

The support provided by Congress' failure in 1982 to amend the Endangered Species Act's definition of "take" is weaker, however, than the situation in *Riverside Bayview.* In *Riverside Bayview,* Congress had considered, but did not enact, bills that would have changed the Corps of Engineers' regulations providing that certain wetlands were within the definition of "waters of the United States," under the Clean Water Act, 33 U.S.C. § 1362 (7) (1982), and there was discussion of the Corps' interpretation both in Committee reports and on the floors of both houses of Congress. *See* 474 U.S. at 135-39.

However, when Congress amended the Endangered Species Act in 1982, a bill was introduced that would have amended the Act's definition of "take" to exclude some types of habitat modification but it was later withdrawn. 17 F.3d at 1467-69. Neither that withdrawn bill nor the Service's 1981 redefinition of "harm" was cited or discussed in Committee reports or floor debates. *See id.*

374. 17 F.3d at 1469. Congress in 1982 did not reenact or amend section 3(19), 16 U.S.C. § 1532(19) (1976), of the Endangered Species Act. *See* Palila v. Hawaii Dep't of Land & Natural Resources, 852 F.2d 1106, 1109 n.6 (9th Cir. 1988); 17 F.3d at 1472.

375. 17 F.3d at 1471 (emphasis added).

plenty of statutes "on the books for which no congres sional majority could presently be generated either to reenact *or* to repeal." It hardly seems consistent to enforce such statutes yet to accept non-amendment of an interpretation as the equivalent of congressional endorsement.[376]

Judge Williams then concluded his analysis regarding whether Congress in 1982 had ratified the Fish and Wildlife Service's 1981 regulation redefining "harm" as follows:

> *If* the 1982 Congress had *reenacted* the pertinent sections of the . . . [Endangered Species Act] *and* "voice[d] its approval" of the . . . [Fish and Wildlife Service's] interpretation, it might be appropriate to treat the reenactment as an adoption of that interpretation. Here, however, Congress neither reenacted the section having to do with "take," nor "voiced its approval" of the harm regulation. . . . [I]ts creation of the [§ 10 (a)(1)(B)] permit scheme is fully consistent with the meaning of "take" as enacted in 1973; the other developments show no more than awareness of the Service's view, its survival in *Palila [I]*, and the absence of any action to endorse or repudiate those developments.[377]

Accordingly, Judge Williams invalidated the Fish and Wildlife Service's regulation defining "harm" to include habitat modification and reversed the judgment of the district court "to that extent," but otherwise left the judgment of the court in *Sweet Home I* "unaltered."[378]

Subsequently, in his statement (joined in by Judge Sentelle) supporting the denial of appellees' petition for rehearing of *Sweet Home II*, Judge Williams noted that:

> The government faults the panel [in *Sweet Home II*] for failing to specify whether the regulation's excess of statutory authority failed under the first or second "step" of the analysis set forth in Chevron U.S.A., Inc. v. NRDC, 467 U.S. 837 (1984), Petition at 9-10, and in a more general way for failing to give the agency the deference that is its due under *Chevron*. Because the court in determining whether Congress "unambiguously expressed" its intent on the issue, *see* 467 U.S. at 843, is to employ all the "traditional tools of statutory construction," INS v. Cardoza-Fonseca, 480 U.S. 421, 446 (1987), the factors involved in the first "step" are also pertinent to whether an agency's interpretation is "reasonable". Thus the exact point where an agency interpretation falls down may be unclear. Indeed, the

376. *Id.* at 1472 (citation omitted) (quoting Ohio v. U.S. Dep't of the Interior, 880 F.2d at 458).

377. *Id.* (citation omitted) (emphasis added).

378. *Id.*

> *Chevron* Court itself never specified which step it was applying at any point in its analysis, *see* 467 U.S. at 859-66.
>
> Nonetheless, we conclude that the statute, fairly read in the light of the "traditional tools of statutory interpretation", manifests a clear determination by Congress that the prohibitions of § 9 should not reach habitat modifications as defined by the Department, where there is no direct action by the defendant against any member of the species. Extending the word "harm" to reach habitat modification as so conceived carries § 9's prohibition far beyond the reach effected by all the other terms used in the definition; it applies to every citizen duties the Act expressly imposed only on federal government agencies; and it ignores the plausible inferences from the Senate's deletion of the phrase "habitat modification" from the draft bill. The extension vests the Department with authority to supervise the use of privately owned land in vast tracts of the United States, even to the point of forbidding modest clearing efforts conducted in the interest of fire protection in populated areas. Congress clearly did not hang so massive an expansion of government power on so slight a nail as § 9's provision that no one should "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" an endangered species.[379]

Judge Williams in *Sweet Home II* changed his position from his concurrence in *Sweet Home I*, in which he had agreed that the Fish and Wildlife Service's 1981 redefinition of "harm" "complies with the Endangered Species Act-but *only* because . . . the 1982 amendments to the . . . [Act, enacting the section 10(a)(1)(B)[380] incidental take permit provision] support the inference that the . . . [Act] otherwise forbids some such incidental takings, including some habitat modification."[381] In *Sweet Home II,* Judge Williams changed his position with respect to section 10(a)(1)(B) and held that section 10(a)(1)(B) only applied to a "take" involving the direct application of force and did not "include the habitat modifications embraced by the Service's definition of 'harm.'"[382] Having changed his interpretation of section 10(a)(1)(B), which had been the only basis of his concurrence in *Sweet Home I*, Judge Williams joined Judge Sentelle in *Sweet Home II* to hold invalid the Fish and Wildlife Service's regulation defining "harm" to include habitat modification.

In *Sweet Home II*, Judge Sentelle concurred with Judge Williams' decision to reverse the district court judgment in part and stated that

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379. Sweet Home Chapter v. Babbitt, 30 F.3d 190, 193 (D.C. Cir. 1994) (statement of Williams, J.) (citations omitted), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859).

380. 16 U.S.C. § 1539(a)(1)(B) (1988).

381. 1 F.3d at 11 (Williams, J., concurring) (emphasis added).

382. 17 F.3d at 1467.

he remained of the view expressed in his *Sweet Home I*[383] dissent that the Service's definition of "harm" "cannot reasonably be defined to include the broadly prohibited habitat modification encompassed in the challenged regulation."[384] Judge Sentelle stated that he found "the words and structure of the Act sufficiently clear as to require no resort to legislative history."[385] He therefore concurred with "those portions of Judge Williams' opinion that . . . [relied] on the structure of the Act and on the maxim of *noscitur a sociis*," and noted, as in his dissent in *Sweet Home I*, "that to define 'harm' as broadly as does the Secretary is to render all other words in the statutory definition of 'taking' superfluous in violation of the presumption against surplusage."[386]

Chief Judge Mikva dissented in *Sweet Home II*,[387] arguing[388] that Judge Williams' majority decision on rehearing violated the *Chevron U.S.A.*[389] doctrine.[390] Chief Judge Mikva noted[391] that Judge Williams only cited *Chevron U.S.A.* once in *Sweet Home II*, after he stated that the Fish and Wildlife "Service's definition of 'harm' was neither clearly authorized by Congress nor a 'reasonable interpretation' of the statute."[392] Chief Judge Mikva quoted[393] the following paragraph from *Chevron U.S.A.*:

> When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.[394]

Chief Judge Mikva then stated that:

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383. 1 F.3d at 11 (Sentelle, J., dissenting). *See supra* notes 312-20 and accompanying text.
384. 17 F.3d at 1472 (Sentelle, J., concur ring).
385. *Id.*
386. *Id.*
387. *Id.* at 1473 (Mikva, C.J., dissenting).
388. *Id.* at 1473-78.
389. Chevron U.S.A v. Natural Resources Defense Council, 467 U.S. 837 (1984).
390. *See supra* notes 236-40 and accompanying text.
391. 17 F.3d at 1473 (Mikva, C.J., dissenting).
392. 17 F.3d at 1464.
393. *Id.* at 1473 (Mikva, C.J., dissenting).
394. *Id.* (quoting 467 U.S. at 842-43 (footnotes omitted)).

> Plainly, *Chevron* does not place the burden on the responsible agency to show that its interpretation is clearly authorized or reasonable. On the contrary, the burden is on the party seeking to overturn such an interpretation to show that Congress has clearly spoken *to the contrary*, or that the agency's interpretation is *un*reasonable. The whole point of *Chevron* deference is that when Congress has *not* given a clear command, we presume that it has accorded discretion to the agency to clarify any ambiguities in the statute it administers. In requiring the agency to justify its regulation by reference to such a clear command, the majority confounds its role. Ties are supposed to go to the dealer under *Chevron*.[395]

Chief Judge Mikva's dissent also criticized Judge Williams' majority opinion for failing to clarify whether the court was invalidating the Service's regulation defining "harm" under step one of *Chevron U.S.A.* because Congress clearly and unambiguously addressed the issue of whether "harm" includes "significant habitat modification [that] actually kills or injures wildlife," or under step two of *Chevron U.S.A.* because the Service's definition was not a permissible or reasonable interpretation of an ambiguous statute.[396] Chief Judge Mikva argued that the Endangered Species Act, regarding step one of *Chevron U.S.A.*, "surely . . . is silent, or at best ambiguous on this question,"[397] so that the only question under step two of the *Chevron U.S.A.* doctrine is:

> whether the . . . [Service's] interpretation of the word "harm" constitutes a "permissible" reading of the ambiguous language. The question is *not* whether we think it constitutes the best reading . . . . Under . . . [*Chevron U.S.A.*], "[t]he court need not conclude that the agency construction was the only one it permissibly could have adopted to uphold the construction, *or even the reading the court would have reached if the question initially had arisen in a judicial proceeding.*"[398]

Chief Judge Mikva asserted in his dissent in *Sweet Home II* that the majority violated the *Chevron U.S.A.* standard by substituting "its own favorite reading of the Endangered Species Act for that of the agency," when "the only question is the reasonableness of the agency's interpretation. A fair reading allows for no other conclusion than that the agency's interpretation is reasonable."[399]

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395. *Id.* (Mikva, C.J., dissenting) (emphasis added).
396. *Id.* at 1473-74.
397. *Id.*
398. *Id.* at 1474 (quoting *Chevron U.S.A.*, 467 U.S. 837, 843 & n.11) (alteration in original) (emphasis added)).
399. *Id.*; *see infra* note 453.

Chief Judge Mikva's dissent then criticized the majority for relying on the "seldom-invoked" *noscitur a sociis* principle of statutory construction.[400] He argued that this principle was incorrectly applied by the majority,[401] because the principle is applicable "when a potentially broad word appears in a definition . . . with a list of narrow words," while the Act's definition of "take" includes several words, including "harass," "wound" and "kill," which "might be read as broadly, or nearly as broadly, as 'harm.'"[402]

In his analysis of the *noscitur a sociis* maxim, Chief Judge Mikva distinguished the holding of *United States v. Hayashi*,[403] upon which Judge Williams relied in his majority opinion,[404] on the grounds that the Marine Mammal Protection Act's definition of "take"[405] only includes the terms "harass," "hunt," "capture," and "kill," but not the "more expansive" terms "harm," "wound," and "pursue," found in the Endangered Species Act's definition of "take."[406] Chief Judge Mikva also noted that *Hayashi* was decided by the Ninth Circuit Court of Appeals, which held in *Palila II*[407] that the Service's "interpretation of 'harm' to include significant habitat modification is consistent with the language, purpose, and legislative history" of the Endangered Species Act.[408]

In his *Sweet Home II* dissent, Chief Judge Mikva also asserted that Judge Sentelle's use of the presumption against surplusage[409] was "[e]qually [as] inappropriate" as his use of the *noscitur a sociis* principle of statutory construction.[410] Although conceding that "[t]here is no reasonable definition of the word 'harm' (or, for that matter, the word 'harass') that would not render superfluous some of the other defined

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400. 17 F.3d at 1774. Chief Judge Mikva also concluded in *Sweet Home I*, 1 F.3d at 10 (Mikva, C.J., concurring), that the Fish and Wildlife Service's definition of "harm" was not impermissible under the *noscitur a sociis* maxim. *See supra* notes 299-301 and accompanying text.

401. 17 F.3d at 1475.

402. *Id.* at 1474. Chief Judge Mikva commented that the Fish and Wildlife Service "has defined . . . 'harass' nearly as broadly as the term 'harm,'" and that the definition of "harass" had not been challenged. *Id.* at 1474-75.

403. 5 F.3d 1278 (9th Cir. 1993).

404. *See supra* notes 330-36 and accompanying text.

405. 16 U.S.C. § 1362(13) (1988). *See supra* note 331.

406. 17 F.3d at 1475 (Mikva, C.J., dissenting).

407. Palila v. Hawaii Dep't of Land & Natural Resources, 852 F.2d 1106, 1107-09 (9th Cir. 1988).

408. 17 F.3d at 1475 (Mikva, C.J., dissenting). *See supra* notes 230-53 and accompanying text. Judge Mikva contended that "today's contrary decision thus creates a foolish circuit conflict." 17 F.3d at 1475 (Mikva, C.J., dissenting).

409. *See id.* at 1472 (Sentelle, J., concurring); Sweet Home v. Babbitt, 1 F.3d 1, 13 (D.C. Cir. 1993) (Sentelle, J., dissenting). *See also supra* notes 319-20, 386 and accompanying text.

410. 17 F.3d at 1475 (Mikva, C.J., dissenting).

terms," and that "one cannot 'kill' or 'wound' an animal without also 'harming' it, even under the narrowest conceivable interpretation of 'harm',"[411] Chief Judge Mikva argued that the majority's holding "read[s] 'harm' out of the statute altogether."[412] This result contradicts "Congress's [sic] intent . . . to define takings 'in the broadest possible manner to include any conceivable way in which a person can "take" or attempt to "take" any fish or wildlife.'"[413] He added that:

> [d]efining "harm" to include "significant habitat modification" renders no more terms superfluous than would a definition that did not include habitat modification but did include "direct" forms of kil ling and wounding. And indeed, the majority's holding that "harm" cannot include indirect means of injuring wildlife may render "harm" itself superfluous, or nearly so, as "direct" means of injury are well covered by the other terms.[414]

Chief Judge Mikva also contended that the legislative history relating to the Endangered Species Act's taking provision,[415] was "most ambiguous regarding whether Congress intended to include habitat modification within the meaning of 'take,'"[416] contrary to the majority's conclusion that this legislative history of the "take" provision establishes that Congress "deliberate[ly] delet[ed] . . . habitat modification from the definition of 'take.'"[417] Chief Judge Mikva pointed out in his *Sweet Home II* dissent, as well as his *Sweet Home I* concurrence,[418] that there is nothing in the legislative history of the Act indicating why the Senate Commerce Committee adopted the definition of "take" in S. 1592 rather than S. 1983's definition of "take," which included habitat "destruction, modification, or curtailment."[419] He also noted that the term "harm" was added to the Act's definition of "take" on the floor of the Senate without a committee vote on the issue.[420] Arguing that the floor addition of "harm" to the Act's definition of "take" "can only have broadened the definition from the bill reported out of Committee—'clarifying' that 'take' should be defined 'in the broadest possible manner,'"[421] Chief Judge Mikva asserted that for purposes of the *Chevron* doctrine:

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411. *Id.*
412. *Id.*
413. *Id.* (quoting S. REP. NO. 307, 93d Cong., 1st Sess. 7 (1973)).
414. 17 F.3d at 1475 (Mikva, C.J., dissenting).
415. *See supra* notes 285-89, 340-44 and accompanying text.
416. 17 F.3d at 1476 (Mikva, C.J., dissenting).
417. *Id.* at 1467. *See supra* notes 343-44 and accompanying text.
418. 1 F.3d at 9 (Mikva, C.J., concurring). *See supra* notes 285-89 and accompanying text.
419. 17 F.3d at 1474-76 (Mikva, C.J., dissenting).
420. *Id.* at 1476.
421. *Id.* (quoting S. REP. NO. 307, 93d Cong., lst Sess. 7 (1973)).

> [T]here is nothing to suggest that Congress chose the definition it did in order to *exclude* habitat modification. The Committee may have rejected the S. 1983 definition only because it apparently would have made habitat modification a *per se* violation of the [Endangered Species Act], as opposed to leaving such determina tions to the discretion of the responsible agency . . . . Surely there is nothing to indicate that the Committee intended to foreclose an administrative regulation prohibiting habitat modification—particularly a prohibition . . . requiring that there be actual injury or death to wildlife.[422]

As in his *Sweet Home I*[423] concurring opinion, Chief Judge Mikva argued in his *Sweet Home II* dissent that "[n]othing in the language of 16 U.S.C. § 1534 or in the legislative history" establishes "that Congress intended land acquisition to be the exclusive instrument for curbing habitat modification on private lands."[424] He noted that Judge Williams referred only to floor statements by members of Congress[425] to support his "totally speculative" "contention that Congress intended land acquisition [under 16 U.S.C. § 1534] to be the exclusive instrument for curbing habitat modification on private lands." Chief Judge Mikva argued "that 'debates in Congress expressive of the views and motives of individual members are not a safe guide . . . in ascertaining the meaning and purpose of the law-making body.'"[426] He added that "[i]n any case, these statements do not establish that even the speakers themselves intended land acquisition to be the *exclusive* protective mechanism for habitats on private lands."[427]

In his *Sweet Home II* dissenting opinion, Chief Judge Mikva found, as he had in his concurring opinion in *Sweet Home I*,[428] that the Service's definition of "harm" was supported by Congress' enactment in 1982 of section 10(a)(1)(B)'s incidental take permit provision.[429] He interpreted the term "incidental takings" in section 10(a)(1)(B) as meaning habitat modification, which would be prohibited under the Act without a permit.[430] Although he implied that the enactment in 1982 of this incidental take permit provision alone does not support a

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422. 17 F.3d at 1476 (Mikva, C.J., dissenting) (emphasis added).

423. 1 F.3d at 9-10 (Mikva, C.J., concurring). *See supra* notes 294-98 and accompanying text.

424. 17 F.3d at 1476.

425. *See supra* notes 341-42 and accompanying text.

426. 17 F.3d at 1476 (quoting Duplex Printing Press. Co. v. Deering, 254 U.S. 443, 474 (1921)).

427. *Id.* (Mikva, C.J., dissenting) (emphasis added).

428. 1 F.3d at 10-11 (Mikva, C.J., concurring). *See supra* notes 302-06 and accompanying text.

429. 17 F.3d at 1477-78 (Mikva, C.J., dissenting).

430. *Id.* at 1477.

decision to uphold the Service's definition of "harm,"[431] he asserted that the 1982 amendments to the Endangered Species Act "indicate that Congress in 1982 probably believed that habitat modification was properly covered by the prohibition on takings."[432] He conceded that "the 1982 amendments prove little about Congress's [sic] intent in 1973," but he noted that Congress in 1973 "was silent on the question" of whether "take" includes habitat modification.[433] He argued that "[c]onsequently, the 1982 amendments . . . lend some weight to the reasonableness of the agency's definition—if Congress in 1982 believed the definition was reasonable, and the agency believed it was reasonable, then Chevron [sic] demands that we uphold the regulation unless we find solid evidence to the contrary. No such evidence exists."[434]

Based on his analysis of "the language, structure, purpose, [and] legislative history"[435] of the Endangered Species Act of 1973, and of the 1982 amendments to the Act and its legislative history, Chief Judge Mikva concluded in his *Sweet Home II* dissent that Congress had not "unambiguously command[ed]" that "harm" does not include habitat modification.[436] He stated that "the statute . . . [was] silent, or at best ambiguous,"[437] on the question of whether "harm" includes "significant habitat modification [that] actually kills or injures wildlife."[438] Thus, a court could not, under *Chevron U.S.A.*, invalidate the Fish and Wildlife Service's 1981 redefinition of "harm" on the grounds that it is contrary to the clear or unambiguously expressed intent of Congress.[439]

This conclusion by Chief Judge Mikva is clearly a correct application of *Chevron U.S.A.* There is no clear language in the Endangered Species Act of 1973, the 1982 amendments to the Act, or legislative history of either, that expressed an unambiguous intent by Congress regarding whether "harm" includes "significant habitat modification [that] actually kills or injures wildlife."[440] Furthermore, the *noscitur a sociis* and presumption against surplusage maxims do not demon-

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431. *Id.* ("[Judge Williams in *Sweet Home I*] was wrong to rely solely on the 1982 amendments for his decision; I agree that they do not alone support its weight.").

432. *Id.*

433. *Id.* at 1477-78.

434. *Id.* at 1478.

435. *Id.* at 1476.

436. *Id.* at 1478.

437. *Id.* at 1473-74.

438. *Id.*

439. *Id.* at 1476, 1478.

440. *Id.* at 1473-74.

strate an "unambiguously expressed intent of Congress"[441] on this question within the meaning of the *Chevron U.S.A.* doctrine. Consequently, because Congress has not unambiguously spoken to provide its clear intent on whether "harm" includes habitat modification, *Chevron U.S.A.* prohibits a court from imposing its own construction of the silent or ambiguous statute,[442] and requires the court to uphold the Fish and Wildlife Service's definition of "harm" if it is a permissible or reasonable interpretation of the Act.[443]

Judge Williams in his majority opinion in *Sweet Home II* incorrectly placed the burden on the Fish and Wildlife Service to show that Congress clearly authorized the Service's definition of "harm."[444] As Chief Judge Mikva noted in his dissenting opinion in *Sweet Home II*, *Chevron U.S.A.* "does not place the burden on the responsible agency to show that its interpretation is clearly authorized or reasonable. On the contrary, the burden is on the party seeking to overturn such an interpretation to show that Congress has clearly spoken *to the contrary*, or that the agency's interpretation is *un*reasonable."[445]

Applying this interpretation of *Chevron U.S.A.*, Chief Judge Mikva concluded in his *Sweet Home II* dissent that the Service's definition of "harm" "is a permissible exercise of its discretion as delegated by Congress," and therefore should be upheld under the *Chevron U.S.A.* doctrine.[446] Chief Judge Mikva argued that the Service's definition was supported by legislative history of the Endangered Species Act of 1973 "which suggest[s] that Congress envisioned a broad interpretation of 'take,' even before the crucial word 'harm' was added to the definition of that term,"[447] as well as by the 1982 enactment of

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441. Chevron U.S.A. v. Natural Resources Defense Council, 467 U.S. 837, 843 (1984).

442. *Id.* at 843-44.

443. *Id.* at 843-45.

444. 17 F.3d at 1464 ("We find that the Service's definition of 'harm' was neither clearly authorized by Congress nor a 'reasonable interpretation' of the statute."). This statement by Judge Williams, however, does not explicitly place the burden on the federal government to show that the Service's 1981 redefinition of "harm" is a reasonable interpretation of the Act, as Chief Judge Mikva contended. *See supra* note 395 and accompanying text.

445. *Id.* at 1473 (Mikva, C.J., dissenting) (emphasis added); *see supra* notes 395-96 and accompanying text.

446. 17 F.3d at 1476 (Mikva, C.J., dissenting).

447. *Id.* at 1477 (citing S. REP. NO. 307, 93d Cong., lst Sess. 7 (1973) ("'Take' is defined . . . in the broadest possible manner.")); H.R. REP. NO. 412, 93d Cong., lst Sess. 15 (1973) ("[The Act] includes, in the broadest possible terms, restrictions on the taking, importation and exportation, and transportation of [endangered] species, as well as other specified acts."); *Sweet Home I*, 1 F.3d at 11 (stating that "'[h]arass' includes activities of bird watchers 'where the effect of those activities might disturb the birds and make it difficult for them to hatch or raise their young'") (quoting S. REP. NO. 307, 93d Cong., 1st Sess. 7 (1973)). Chief Judge Mikva also referred "to the floor amendment that added the word 'harm,' purportedly to 'clarify' language that was 'omitted' from the draft that emerged from Committee." 17 F.3d at 1477 (quoting 119 CONG. REC. S25,683 (July 24, 1973) (statement by Sen. Tunney)).

the section 10(a)(1)(B) incidental take permit provision.[448] As Chief Judge Mikva stressed in his *Sweet Home II* dissent, the majority in *Sweet Home II* made:

> no effort . . . to determine whether the agency could reasonably have relied on such [1982] amendments as persuasive evidence supporting its interpretation. Instead, the agency . . . [was] asked to prove that the best interpretation of "harm" encompasses habitat modification. Beginning from a wrong premise, applying a wrong standard, it is not surprising that the wrong result . . . [was] achieved.[449]

He added that the majority's decision created a split among the circuit court of appeals because "[t]he Ninth Circuit determined, in *Palila v. Hawaii Department of Land and Natural Resources*, . . . that the [Fish and Wildlife Service's] 'harm' definition was a permissible interpretation of the statute."[450]

VI. CONCLUSION

Judge Williams' majority opinion in *Sweet Home II* should be reversed by the United States Supreme Court. The Fish and Wildlife Service's definition of "harm" should be upheld by the Supreme Court under the *Chevron U.S.A.* doctrine as a reasonable and permissible interpretation of the Endangered Species Act, for the reasons set forth by the Ninth Circuit in *Palila II*,[451] and by Chief Judge Mikva in his concurring opinion in *Sweet Home I*[452] and in his dissenting opinion in *Sweet Home II*.[453] The reasons for upholding the Service's definition of

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448. 17 F.3d at 1477-78 (Mikva, C.J., dissenting). *See supra* notes 429-39 and accompanying text.

449. 17 F.3d at 1478 (Mikva, C.J., dissenting).

450. *Id.* (citing 852 F.2d 1106 (9th Cir. 1988)). *See supra* notes 229-55 and accompanying text.

451. Palila v. Hawaii Dep't of Land & Natural Resources, 852 F.2d 1106, 1108-09 (9th Cir. 1988). *See supra* notes 230-53 and accompanying text.

452. Sweet Home Chapter v. Babbitt, 1 F.3d 1, 8 (D.C. Cir. 1993) (Mikva, C.J., concurring), *modified on other grounds*, 17 F.3d 1463 (D.C. Cir. 1994), *reh'g denied*, 30 F.3d 190 (D.C. Cir. 1994), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). *See supra* notes 283-308 and accompanying text.

453. Sweet Home Chapter v. Babbitt, 17 F.3d 1463, 1473 (D.C. Cir. 1994) (Mikva, C.J., dissenting), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). Judge Silberman, in a dissenting opinion, joined by Chief Judge Mikva and Judge Wald, argued that:

> Assuming the challenge to the regulation is ripe and that Chevron [sic] controls our review, I think the Chief Judge [Mikva] has the better of the argument . . . . I do not think . . . that the majority has submitted to the discipline of the Chevron [sic] framework and given the Department of Interior its due deference. It was certainly not apparent whether the majority's initial opinion rested on Chevron [sic] Step I or Step II. In its response to the government's petition for rehearing, the panel majority appears to shift perceptibly to a Step I "clear determination by

"harm," as a reasonable and permissible interpretation of the Endangered Species Act, include: (1) that the Service's definition furthers both the Act's purpose of conserving wildlife habitat and Congress' intent to define "take" as broadly as possible to protect wildlife;[454] and (2) Congress' enactment in 1982 of the section 10(a)(1)(B) incidental taking permit provision provides reasonable support for the Service's interpretation of "harm" to include habitat modification.[455] The Fish and Wildlife Service's definition of "harm" should not be found to be unreasonable or impermissible under a *Chevron U.S.A.* analysis, either because habitat modification was deleted from the original version of S. 1983,[456] because of the legislative history with respect to the federal land acquisition program under section 4 of the Act,[457] or because of the statutory construction maxims of *noscitur a sociis*[458] or surplusage.[459] Chief Judge Mikva in

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> Congress," against which no deference to the agency's interpretation is appropriate. I do not find in either the statutory language or the legislative history any such fixed view. And at the second step (which is where I would analyze the case), maxims of statutory construction like noscitur a sociis, although not totally irrelevant, certainly have less force. See Michigan Citizens for an Indep. Press v. Thornburgh, 868 F.2d 1285, 1292-93 (D.C. Cir.), *aff'd per curiam by an equally divided court*, 493 U.S. 38 (1989). I quite agree with the panel that "the factors involved in the first 'step' are also pertinent to whether an agency's interpretation is 'reasonable;'" . . . but when thinking of the statute at that second step, one must assume that the statute has more than one plausible construction as it applies to the case before you. If the agency offers one—it prevails.

Sweet Home Chapter v. Babbitt, 30 F.3d 190, 194 (D.C. Cir. 1994) (Silberman J., dissenting from the denial of rehearing *en banc*) (some citations omitted), *cert. granted*, 115 S. Ct. 714 (Jan. 6, 1995) (No. 94-859). Judge Silberman's opinion in Michigan Citizens for an Indep. Press v. Thornburgh, 868 F.2d at 1292, states that:

> *Chevron* implicitly precludes courts picking and choosing among various canons of statutory construction to reject reasonable *agency* interpretations of ambiguous statutes. If a statute is ambiguous, a reviewing court cannot reverse an agency decision merely because it failed to rely on any one of a number of canons of construction that might have shaded the interpretation a few degrees in one direction or another.

Id.

454. *See Palila II*, 852 F.2d at 1108-09; Sweet Home Chapter v. Babbitt, 1 F.3d at 8-9 (Mikva, C.J., concurring); Sweet Home Chapter v. Babbitt, 17 F.3d at 1476-77 (Mikva, C.J., dissenting). *See supra* notes 245-46 and accompanying text.

455. *See* Sweet Home Chapter v. Babbitt, 17 F.3d at 1477-78 (Mikva, C.J., dissenting). *See supra* notes 428-39 and accompanying text.

456. *See* 17 F.3d at 1467. *See supra* notes 343-44 and accompanying text.

457. *See* 17 F.3d at 1466. *See supra* notes 340-42 and accompanying text.

458. *See* 1 F.3d at 12-13 (Sentelle, J., dissenting). *See supra* notes 316-18 and accompanying text.

459. *See* 1 F.3d at 13 (Sentelle, J., dissenting). *See supra* notes 319-20 and accompanying text.

his *Sweet Home I*[460] concurrence and in his *Sweet Home II*[461] dissent presented reasonable rebuttals to each of these arguments. The Fish and Wildlife Service's 1981 regulation redefining "harm" is a reasonable interpretation of ambiguous provisions of the Endangered Species Act and should be upheld under the *Chevron U.S.A.* doctrine.

Furthermore, courts should liberally construe the Service's 1981 redefinition of "harm." This liberal construction should prohibit acts, including habitat modification, that kill or physically injure individual wild animals *and* acts, including habitat modification, that adversely impact entire species'—or a large number of animals'—breeding, feeding, or sheltering, causing a decline in the species' population and threatening the species with extinction or preventing the species from recovering.

The Service's definition of "harm" also should be interpreted to prohibit local, state, or federal governmental officials or agencies from permitting, licensing, or funding another person's act that would "take" an endangered or threatened species, when such authorization or funding is a prerequisite to that other person's act. In addition, the failure of a person or agency to perform a duty should be a "harm" that is prohibited by the Service's regulations and the Act when that omission causes death or injury to a protected species.

As noted by Chief Judge Mikva in his dissent in *Sweet Home II*, "[t]he purpose of the Endangered Species Act, lest we forget, is to protect endangered species. In [*Sweet Home II's*] abandonment of [the panel's] decision of less than a year ago, [the] court . . . [took] a large step backward from that purpose. The majority [in *Sweet Home II*] may believe it . . . [made] good policy—but that is not [a court's] job."[462]

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460. 1 F.3d at 8-11 (Mikva, C.J., concurring). *See supra* notes 283-308 and accompanying text.

461. 17 F.3d at 1473-78 (Mikva, C.J., dissenting). *See supra* notes 387-450 and accompanying text.

462. 17 F.3d at 1478 (Mikva, C.J., dissenting); see Federico Cheever, *An Introduction to the Prohibition Against Takings in Section 9 of the Endangered Species Act of 1973: Learning to Live With a Powerful Species Preservation Law*, 62 U. COLO. L. REV. 109 (1991).

COMMERCIAL HAZARDOUS WASTE PROJECTS IN INDIAN COUNTRY: AN OPPORTUNITY FOR TRIBAL ECONOMIC DEVELOPMENT THROUGH LAND USE PLANNING*

ROBERT SITKOWSKI**

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* The following article won first price in the 1994 R. Marlin Smith Student Writing Competition sponsored by the Planning and Law Division of the American Planning Association. This Competition honors the late R. Marlin Smith, a prominent land use lawyer and teacher who contributed greatly to the theory and practice of land use law.

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I. INTRODUCTION

The inequitable geographic distribution of facilities that pose environmental hazards to citizens has come under considerable scrutiny by politicians, citizens, scholars, and the media. Increasing public opposition has stigmatized many essential-industry facilities as "Locally Unwanted Land Uses" (LULUs) in today's "Not in my Backyard" (NIMBY) and "Citizens Against Virtually Everything" (CAVE) milieu.[1] This distribution is arguably the manifestation of environmental practices, be they regulations or actions, having a "predictable distributional impact" that "contributes to the structure of racial and economic subordination and discrimination."[2] This well-documented concentration of environmental risks in minority and low-income communities throughout the United States is popularly known as "environmental racism."[3] The burden shouldered by these

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1. For background on the NIMBY syndrome and locational decision-making for stigmatized facilities (particularly hazardous waste sites), *see* Robert W. Lake, *Planner's Alchemy: Transforming NIMBY to YIMBY*, 59 J. AM. PLAN. ASS'N 87 (1993); Robert W. Lake, *Rethinking NIMBY*, 59 J. AM. PLAN. ASS'N 87 (1993); Michael Dear, *Understanding and Overcoming the NIMBY Syndrome*, 58 J. AM. PLAN. ASS'N 288 (1992); Robert W. Lake & L. Disch, *Structural Constraints and Pluralist Contradictions in Hazardous Waste Regulation*, 24 ENV'T AND PLAN. 663 (1992); DENIS J. BRION, ESSENTIAL INDUSTRY AND THE NIMBY PHENOMENON (1991); KENT E. PORTNEY, SITING HAZARDOUS WASTE TREATMENT FACILITIES: THE NIMBY SYNDROME (1991); Michael Heiman, *From 'Not in My Backyard' to 'Not in Anybody's Backyard': Grassroots Challenges to Hazardous Waste Facility Siting*, 56 J. AM. PLAN. ASS'N 359 (1990); Robert W. Lake & Rebecca A. Johns, *Legitimation Conflicts: The Politics of Hazardous Waste Siting Law*, 11 URB. GEOGRAPHY 488 (1990); RESOLVING LOCATIONAL CONFLICT (Robert W. Lake ed., 1988); Richard N. L. Andrews, *Local Planners and Hazardous Materials*, 53 J. AM. PLAN. ASS'N 3 (1987); Richard F. Anderson, *Public Participation in Hazardous Waste Facility Location Decisions*, 1 J. PLAN. LITERATURE 145 (1986); Robert Cameron Mitchell & Richard T. Carson, *Property Rights, Protest, and the Siting of Hazardous Waste Facilities*, 76 A.E.A. PAPERS & PROC. 285 (1986); Richard F. Anderson & Michael R. Greenberg, *Hazardous Waste Facility Siting: A Role for Planners*, 48 J. AM. PLAN. ASS'N 204 (1982); Anthony J. Mumphrey, Jr., et al., *A Decision Model for Locating Controversial Facilities*, 33 J. AM. INST. PLAN. 397 (1971).

2. Gerald Torres, *Race, Class and Environmental Regulation—Introduction: Understanding Environmental Racism*, 63 U. COLO. L. REV. 839, 840 (1992).

3. The term "environmental racism" was coined by Dr. Benjamin Chavis in the United Church of Christ Commission for Racial Justice's 1987 report *Toxic Waste and Race in the United States.* Charles Lee, *Toxic Waste and Race in the United States, in* RACE AND THE INCIDENCE OF ENVIRONMENTAL HAZARDS: A TIME FOR DISCOURSE 10 (Bunyan Bryant et al. eds., 1992). For general examinations of this topic, see UNEQUAL PROTECTION: ENVIRONMENTAL JUSTICE AND COMMUNITIES OF COLOR (Robert D. Bullard ed., 1994); Vicki Been, *What's Fairness Got to Do With It? Environmental Justice and the Siting of Locally Undesirable Land Uses*, 78 CORNELL L. REV. 1001 (1993); CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS (Robert D. Bullard ed., 1993); Edward Patrick Boyle, Note, *It's Not Easy Bein' Green: The Psychology of Racism, Environmental Discrimination, and the Argument for Modernizing Equal Protection Analysis*, 46 VAND. L. REV. 937 (1993); Anthony R. Chase, *Assessing and Addressing Problems Posed by Environmental Racism*, 45 RUTGERS L. REV. 335 (1993); RACE AND THE INCIDENCE OF ENVIRONMENTAL HAZARDS: A TIME FOR DISCOURSE (Bunyan Bryant et al. eds., 1992); Paul Mohai & Bunyan Bryant, *Environmental Injustice: Weighing Race and Class as Factors in the Distribution of Environmental Hazards*, 63 U. COLO. L. REV. 921 (1992); Rachel D. Godsil, Note,

communities has apparently not escaped the attention of both President Clinton[4] and the Environmental Protection Agency (EPA)[5] The disparate burden on minorities and low-income communities is not controversial, but its "racism" aspect has generated considerable argument. Experts such as Robert Bullard contend that focusing on intent is counterproductive when combatting this situation: "[w]hen I use the term 'environmental racism' I'm not talking about whether a community is overburdened with environmental hazards intentionally or not—the result is the same. If you argue about intent, you'll never get anywhere."[6]

Though the inequitable distribution of environmental hazards has adversely affected many minority and low-income communities, since the early 1990's environmentalists and the mainstream press have increasingly focused on Indian Country.[7] These observers contend that commercial waste companies have been marauding through the reservations unchecked, relentlessly savaging Indian lands, apparently immune from environmental regulations[8] Native American legal commentators have invariably come down on both sides of this volatile issue. Some, echoing the "mainstream" position, argue that "[p]oison for profit is the ultimate toxic racism, the ultimate sewage of foreigners."[9] Others, labeling the flood of reports a "steady drumbeat of misinformed stories," work from a controversial premise.[10] They maintain that under certain circumstances, and

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Remedying Environmental Racism, 90 MICH. L. REV. 394 (1991); ROBERT D. BULLARD, DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL EQUITY (1990).

4. *See* Exec. Order No. 12,898, 59 Fed. Reg. 7629 (1994). This order directs federal agencies to make "environmental justice" part of their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations.

5. ENVIRONMENTAL PROTECTION AGENCY, ENVIRONMENTAL EQUITY: REDUCING RISK FOR ALL COMMUNITIES (1992).

6. Steven Keeva, *A Breath of Justice*, 80 ABA J., Feb. 1994, at 88, 90.

7. *See infra* note 13.

8. *See generally*, Margaret Knox, *Their Mother's Keepers*, SIERRA, Mar.-Apr. 1993, at 51; Reese Erlich, *Indians Press Clinton to Halt Waste Storage*, CHRISTIAN SCI. MONITOR, Nov. 25, 1992, at 8; *Maybe In My Backyard, Say Counties, Tribes*, STATE LEGISLATURES, June 1992, at 7; Keith Schneider, *Grants Open Doors for Nuclear Waste*, N.Y. TIMES, Jan. 9, 1992, at A14; Thomas Daschele, *Dances With Garbage*, CHRISTIAN SCI. MONITOR, Feb. 14, 1991, at 36; Mary Hager et al., *Dances With Garbage*, NEWSWEEK, April 29, 1991, at 36; Paul Schneider & Dan Lamont, *Other People's Trash*, AUDUBON, July, 1991, at 108; Conger Beasley, Jr., *Of Landfill Reservations*, BUZZWORM, Sept.-Oct. 1991, at 41; Conger Beasley, Jr., *Dances With Garbage*, E MAG., Nov.-Dec. 1991, at 34; Bill Lambrecht, *"Broken Trust" Series*, ST. LOUIS POST-DISPATCH, Nov. 17, 1991 to Nov. 21, 1991, at 1A.

9. Scott Morrison & LeAnne Howe, *The Sewage of Foreigners: An Examination of the Historical Precedent for Modern Waste Disposal on Indian Lands*, 39 FED. B. NEWS & J. 370, 372 (1992).

10. Jana L. Walker & Kevin Gover, *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, 10 YALE J. ON REG. 229, 229 (1993) [hereinafter *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*].

within an appropriate regulatory and enforcement framework, utilizing reservations as sites for commercial solid and hazardous waste facilities may provide tribes with economic, social, and political development opportunities. The viability of such facilities, they argue, should be governed by tribal self-determination and economic self-sufficiency, not by public sentiment.[11]

Both views clearly have merit, but this article supports the latter contention. Native Americans living on reservations are generally beset by isolation and a seemingly endless and intractable cycle of poverty due to poor health, low-paying jobs, low levels of education, and high levels of unemployment.[12] Responses to these crippling problems must be equally dramatic and imaginative. Indeed, a commercial solid or hazardous waste project may represent an appropriate and workable form of economic development for some tribes and can provide extraordinary opportunities for development in Indian Country.

This article recognizes that the complex cost-benefit calculus involved in balancing exposure to environmental hazards with economic well-being is most properly determined by the tribal members and their governments. Nevertheless, this article will analyze the critical issues surrounding hazardous waste projects and Indian Country economic development in an effort to establish a workable structure for such projects. The article will first examine the current state of economic development opportunities in an era of Indian self-determination and economic independence. This context necessarily requires that the article address sovereignty issues. The second part of the article will describe Indian Country's current environmental and land use planning regulatory state. Finally, the article will present a model land use planning system, assembled from the work of four tribes in both land use planning and solid and hazardous waste facility planning.

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11. *Commercial Solid and Hazardous Waste Projects on Indian Lands*, *supra* note 10, at 231. *See e.g.*, Bunty Anquoe, *Mescalero Apache Sign Agreement to Establish Facility for Nuclear Waste*, INDIAN COUNTRY TODAY, Feb. 10, 1994, at A1. While the Mescalero Apache tribal government did enter into such an agreement, the tribal membership defeated on January 31, 1995 by a 490-362 vote, a referendum that would have allowed the Tribal Council to continue plans for the nuclear waste facility. Alt.native Internet Newsgroup, Feb. 4, 1995 (posted by Michele Lord). The authors also underscore the evidence that, assuming that waste companies are targeting reservations, tribes are not only rejecting such overtures, but are not even interviewing waste companies. *See also Maybe In My Backyard, Say Counties, Tribes*, STATE LEGISLATURES, June 1992, at 7; Kathleen Shaheen & John T. Acquino, *Waste Disposal on Indian Lands*, WASTE AGE, Oct. 1991, at 58; Rogers Worthington, *Tribes Resist Tempting Landfill Offers*, CHI. TRIB., Sept. 22, 1991, §1, para. 4.

12. Vicki Page, *Reservation Development in the United States: Peripherality at the Core*, 9 AM. INDIAN CULTURE & RES. J. 21, 21 (1985).

II. ECONOMIC DEVELOPMENT ISSUES IN INDIAN COUNTRY

A. *Introduction*

As used in this article, Indian Country[13] refers to a geographic location that necessarily includes more territory than a "reservation";[14] the article thus adopts a political geographer's view[15] as well as a legal view. One must necessarily employ such a view in order to appreciate fully the complexity of sovereignty issues presented in part II(C) of this article. Embracing this view also helps to delineate the differences between tribal environmental regulation, which can impact land uses outside the reservation, and tribal land use planning, which is primarily confined to the territory within reservation boundaries.

Commentators and scholars have consistently and convincingly shown that Native Americans living in Indian Country have been and continue to be one of the most disadvantaged minority groups in the United States, subject to severe levels of poverty and its concomitant conditions.[16] This situation has apparently continued unabated despite decades of professed federal and public concern as well as a

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13. "Indian Country" is statutorily defined as:

> (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including the rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian Titles to which have not been extinguished, including rights-of-way running through the same.

18 U.S.C. § 1151 (1982).

14. This term refers to land reserved by treaty, statute, or executive order. *See generally* FELIX S. COHEN, HANDBOOK OF FEDERAL INDIAN LAW, ch.1 (1942, reprinted 1986).

15. "One will look in vain for Indian Country on most maps . . . we will encounter many Indians who are residents of lands and towns external to reservations. This broader view of Indian Country focuses attention on a geographical reality in which Indians live adjacent to one another either within the political milieu of a tribal entity—the reservation—or within the bounds of civil governments—towns and counties." Imre Sutton, *Preface to Indian Country: Geography and Law*, 15 AM. INDIAN CULTURE & RES. J. 3, 3-4 (1991).

16. "Several Reservation counties, such as Shannon County on the Pine Ridge Reservation, Buffalo County on the Crow Creek Reservation, Ziebach County on the Cheyenne River Reservation, and Todd County on the Rosebud Reservation," have been and continue to be "among the poorest in the United States." Frank Pommersheim, *The Reservation as a Place: A South Dakota Essay*, 34 S.D. L. REV. 246, 246 n.2 (1989). *See also* Peter T. Kilburn, *Sad Distinction for the Sioux: Homeland is Number One in Poverty*, N.Y. TIMES, Sept. 30, 1992, at A1; Stephen Cornell & Joseph Kalt, *Culture and Institution as Public Goods: American Indian Economic Development as Collective Action, in* WHAT CAN TRIBES DO? STRATEGIES AND INSTITUTIONS IN AMERICAN INDIAN ECONOMIC DEVELOPMENT at 219-22 (Stephen Cornell et al. eds., 1992); Stephen Cornell & Joseph Kalt, *Pathways From Poverty: Economic Development and Institution-Building on American Indian Reservations*, 14 AM. INDIAN CULTURE & RES. J. 89 (1990).

seemingly endless flow of federal and private dollars. On most reservations, circumstances have not significantly improved, and evidence of sustainable productive activity remains elusive.[17]

Scholars attempting to understand this phenomenon[18] in terms of economic development opportunities in Indian Country have stressed two prominent characteristics: while the severe symptoms of underdevelopment uniformly cut across Indian Country, some reservations appear to be emerging from poverty.[19] Though many theories have been offered in explanation for these observations, two factors appear to determine most directly the outcome of economic development efforts in Indian Country: federal domination and tribal self-reliance.[20] The former, federal government *de facto* ownership of reservations (in the sense of ultimate decision-making control), is characterized by significant conflicts of interest, arguably creating a hindrance to development efforts. On the other hand, tribes can take greater responsibility for their economic, social, and political affairs through the efforts of Indian tribal leadership and Indian lawyers, given that tribes exercise substantial judicial, legislative, tax, and regulatory authority. In short, the tribes exerting significant local control have been the most successful in creating sustainable economic activity. Encouragingly, the current relationship between the federal government and tribes promises to set the stage upon which opportunities for tribally-initiated and tribally-controlled projects can succeed.

B. Self-Determination and Economic Development

When attempting economic development[21] initiatives, like gambling casinos, leasing of tribal natural resources, capital-intensive

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17. Stephen Cornell & Joseph Kalt, *Culture and Institutions as Public Goods: American Indian Economic Development as a Problem of Collective Action*, *in* PROPERTY RIGHTS AND INDIAN ECONOMIES 215 (Terry L. Anderson ed., 1992) [hereinafter *Culture and Institutions as Public Goods*].

18. *See generally*, WHAT CAN TRIBES DO? STRATEGIES AND INSTITUTIONS IN AMERICAN INDIAN ECONOMIC DEVELOPMENT (Stephen Cornell et al. eds., 1992); *Culture and Institutions as Public Goods*, *supra* note 17; Ross O. Swimmer, *A Blueprint for Economic Development in Indian Country*, 10 J. ENERGY L. & POL'Y 13 (1989); JOSEPH P. KALT, THE REDEFINITION OF PROPERTY RIGHTS IN AMERICAN INDIAN RESERVATIONS: A COMPARATIVE ANALYSIS OF NATIVE AMERICAN ECONOMIC DEVELOPMENT (1987).

19. *Culture and Institutions as Public Goods*, *supra* note 17, at 216.

20. *Id.* at 217.

21. This article recognizes that the concept of "economic development" is a complex one, composed of economic, social, and political elements. *See Culture and Institutions as Public Goods*, *supra* note 17, at 215.

manufacturing, large-scale agribusiness ventures,[22] or waste disposal facilities, tribes must necessarily struggle with the interrelated concepts of self-determination (the latest phase in the ever-changing panorama of U.S.-tribal relations[23]) and sovereignty.

Tribal self-determination is both a concept and a federal policy, officially articulated most recently by President Ronald Reagan.[24] The policy mandates a "government-to-government" relationship between the federal and tribal governments by strengthening tribal governments and by lessening federal control over tribal governments' affairs. Self-determination primarily involves tribal efforts to reduce dependence on federal funding, with the ultimate goal of economic independence. A 1984 report issued by the Presidential Commission on Reservation Economies,[25] which supported and expanded upon President Reagan's pronouncement, generated considerable controversy by proposing that Indian governments relinquish some of their rights in order to attract new business.[26] Nonetheless, the Presidential Commission policy was officially adopted and expanded by the EPA in 1984.[27]

Some commentators have likened these modern pronouncements to policies established during the discredited and repudiated Termination Era.[28] These critics claim that the current policies seemingly resurrect the old Bureau of Indian Affairs (BIA) policy of leasing Indian-owned resources to individuals or to non-Indian businesses.[29]

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22. Frank Pommersheim, *Economic Development in Indian Country: What Are the Questions?*, 12 AM. INDIAN L. REV. 195, 195 (1987).

23. *See generally*, CHARLES F. WILKINSON, AMERICAN INDIANS, TIME, AND THE LAW (1987) and VINE DELORIA ET AL., AMERICAN INDIANS, AMERICAN JUSTICE (1983).

24. Statement on Indian Policy, 1983 PUB. PAPERS 96 (Jan. 24, 1983).

25. PRESIDENTIAL COMMISSION ON RESERVATION ECONOMIES, REPORT AND RECOMMENDATIONS TO THE PRESIDENT OF THE UNITED STATES (1984).

26. Gary D. Sandefur, *Economic Development and Employment Opportunities for American Indians, in* AMERICAN INDIANS: SOCIAL JUSTICE & PUBLIC POLICY (Donald E. Green et al. eds., 1991) at 208.

27. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, EPA POLICY FOR THE ADMINISTRATION OF ENVIRONMENTAL PROGRAMS ON INDIAN RESERVATIONS, Nov. 8, 1984. See the more focused examination of the EPA policy's repercussions *infra* part III(B).

28. *See generally* VINE DELORIA ET AL., AMERICAN INDIANS, AMERICAN JUSTICE (1983).

29.

> Without sound reservation economies, the concept of self-government has little meaning. In the past, despite, or perhaps because of its good intentions, the federal government has been one of the major obstacles to Indian economic progress. The President has committed his administration to removing impediments to Indian economic development and to encouraging cooperative efforts among tribes, federal, state, and local governments, and the private sector toward developing reservation economies.

This article, however, argues that the policies do not harken back to the Dark Ages in application and that official recognition of tribal authority works to the benefit of the tribes.

Effective tribal economic development through self-determination possesses three components: *sovereignty*, the tenuous key to development; *institutions* through which the tribes can successfully exercise their sovereignty; and a sound local *development strategy*.[30] The opportunities for tribal governments to devise and implement their own institutions, regulatory framework, and development strategies in accordance with this model are apparently broad in a climate of self-determination, but tribes must still confront and ultimately reconcile sovereignty issues to succeed. The crucial connection between sovereignty and Indian economic development is reflected in the aphorism "Economy follows Sovereignty."[31] Aggressive tribal assertions of local control can lead to the economic independence envisioned by the tribes' and the federal government's self-determination policy.

C. Sovereignty

The unsettled issue of tribal sovereignty in Indian Country cannot be separated from the interaction of three entities that typically exhibit competing interests: the federal government, the state, and the tribe. Tribal governments are unique aggregations possessing attributes of sovereignty over both their members and their territory in both the criminal and civil arenas.[32] Tribes have enjoyed such inherent fundamental powers as those establishing a form of government,[33] determination of tribal membership,[34] administration of justice,[35]

Donald T. Stull, *Reservation Economic Development in the Era of Self-Determination*, 92 AM. ANTHROPOLOGIST 206, 209 (1990), *quoting* PRESIDENTIAL COMMISSION ON RESERVATION ECONOMIES at 3.

30. Stephen Cornell & Joseph Kalt, *Reloading the Dice: Improving the Chances for Economic Development on American Indian Reservations, in* WHAT CAN TRIBES DO? STRATEGIES AND INSTITUTIONS IN AMERICAN INDIAN ECONOMIC DEVELOPMENT at 53 (Stephen Cornell et al. eds., 1992).

31. *Culture and Institutions as Public Goods*, *supra* note 17, at 245.

32. United States v. Wheeler, 435 U.S. 313 (1978).

33. AMERICAN INDIAN LAWYER TRAINING PROGRAM, INC., INDIAN TRIBES AS SOVEREIGN GOVERNMENTS: A SOURCEBOOK ON FEDERAL-TRIBAL HISTORY, LAW, AND POLICY 36 (1988) [hereinafter INDIAN TRIBES AS SOVEREIGN GOVERNMENTS].

34. Santa Clara Pueblo v. Martinez, 436 U.S. 49 (1978) (stating that the Indian Civil Rights Act does not require tribes to follow Anglo concepts of equal protection and due process).

35. INDIAN TRIBES AS SOVEREIGN GOVERNMENTS, *supra* note 33, at 37.

exclusion of persons from the reservation,[36] chartering business organizations,[37] sovereign immunity,[38] and the police power, which includes the ability to develop and implement zoning controls[39] Tribes thus have the power to enforce tribal laws, including environmental ones, against their own members.

On the other hand, tribes exercise a diminished degree of authority over non-Indians and their lands. In *Montana v. United States*[40] the United States Supreme Court established that "tribal governments retain inherent sovereign power to exercise some forms of civil jurisdiction over non-Indians on their reservations, even on non-Indian-owned fee lands."[41] In particular, a tribal government may exercise civil authority over the conduct of non-Indians within its reservation when that conduct threatens the health and welfare of the tribe.[42] This exercise of the police power conceivably applies to the creation and enforcement of both tribal environmental and land use regulations.

Congress's plenary power must be included in any discussion of the bounds of tribal sovereignty. Grounded in the doctrine of discovery and incorporated into the U.S. Constitution, the plenary power permits Congress to exercise virtually unlimited control over individual Indians, their lands, and their tribes.[43] This power is subject to both the Fifth Amendment's "takings clause"[44] and the U.S. government's trust relationship with tribes.[45] Perhaps the most significant aspect of this power, though, is Congress's ability to legislate

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36. *Id.* Sovereignty is a fundamental means by which tribes can protect their territory against trespassers; this prohibition does not cover non-members who hold land in fee within the reservation.

37. Morgan v. Colorado River Indian Tribe, 443 P.2d 421 (Ariz. 1968).

38. INDIAN TRIBES AS SOVEREIGN GOVERNMENTS, *supra* note 33, at 39.

39. Tribal regulation of land use through zoning has been upheld in Governing Council v. Mendicino County, 684 F.Supp. 1042 (N.D. Cal., 1988); Knight v. Shoshone and Arapahoe Indian Tribes, Wyo., 670 F.2d.900 (10th Cir. 1982); Confederated Salish and Kootenai Tribes v. Namen, 665 F.2d 951 (9th Cir. 1982), *cert. denied*, 459 U.S. 977; Santa Rosa Band v. Kings County, 532 F.2d 655 (9th Cir. 1975), *cert. denied*, 429 U.S. 1038 (1977); and Snohomish County v. Seattle Disposal Co., 425 P.2d 22 (Wash. 1967), *cert. denied*, 389 U.S. 1016 (1968).

40. 450 U.S. 544 (1981).

41. *Id.* at 565.

42. *Id.* at 565-66.

43. Lone Wolf v. Hitchcock, 187 U.S. 553 (1903) (stating that rights established by documents such as treaties can be abrogated by Congress). The primary constitutional underpinnings of this plenary power are the Indian Commerce Clause, U.S. CONST. art. I, § 8, cl. 3; the Treaty Power, U.S. CONST. art. II, § 2, cl. 2; and the Supremacy Clause, U.S. CONST. art. VI, § 2. *But see* United States v. Winans, 198 U.S. 371 (1905) (establishing the "Reserved Rights Doctrine," i.e., intrinsic tribal rights are not granted by the United States, but are retained by the tribes as sovereigns).

44. United States v. Sioux Nation, 448 U.S. 371 (1980).

45. Cherokee Nation v. Georgia, 30 U.S. (5 Pet.) 1 (1831). *See infra* note 47.

specifically regarding Indian lands, people, and resources. Complementing this ability is the judicially-created doctrine, known as the "*Farris* rule," that federal laws with general applicability apply to Indians and tribes.[46] The operation of Congress's plenary power and the "general applicability" rule undoubtedly subject Indian Country to the application of federal environmental laws.

The "Marshall Trilogy" of United States Supreme Court decisions involving tribes further delineated the legal topography of U.S.-tribal relations.[47] The Trilogy, spanning the decade between 1823 and 1832, established that Congress possesses the right to extinguish tribal rights to possession of land ("Aboriginal" or "Original Indian" title);[48] that tribes possess the status of "Domestic Dependent Nations," organizationally distinct from states, but subject to certain restrictions upon their ability to self-govern;[49] and, most importantly for purposes of this article, that tribes are "Sovereigns": they exercise inherent governmental authority over their peoples and territories and state law does not apply within reservation boundaries without explicit Congressional consent.[50]

Indian tribal sovereignty, as established by *Worcester v. Georgia*[51] in 1832, has governed internal social and political affairs for over 150 years. More recently, however, the Supreme Court has eroded tribal sovereignty by stripping tribes of their powers over non-Indian individuals, activities, and land on the theory that tribes' dependent status implicitly divests them of such power.[52] The Court first utilized this theory in devising the *Oliphant v. Susquamish Indian Tribe*[53] modern sovereignty test. Under this test, tribes can lose sovereignty

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46. United States v. Farris, 624 F.2d 890 (9th Cir. 1980) (holding that in the absence of specific congressional intent, federal laws generally applicable throughout the United States apply with equal force to Indians on reservations).

47. Worcester v. Georgia, 31 U.S. (6 Pet.) 515 (1832), Cherokee Nation v. Georgia, 30 U.S. (5 Pet.) 1 (1831), and Johnson v. M'Intosh, 21 U.S. (8 Wheat.) 543 (1823). *See infra* notes 48-49.

48. 21 U.S. (8 Wheat.) at 543.

49. 30 U.S. (5 Pet.) at 17 (establishing the trust relationship between the tribes and the federal government, likened to that between a ward and its guardian; this relationship holds the government to fiduciary standards when dealing with tribes). The most cited restrictions on self-government are those imposed on tribal power to alienate fee land to non-Indians without Congressional consent and tribal authority to engage in relations with foreign nations. *See* Brendale v. Confederated Tribes and Bands of Yakima Indian Nation, 492 U.S. 408 (1989).

50. Worcester v. Georgia, 31 U.S. (6 Pet.) 515 (1832).

51. *Id.*

52. *See, e.g.*, Duro v. Reina, 495 U.S. 676 (1990) (holding that tribe has no criminal jurisdiction over Indians who are not members of the prosecuting tribe), *Brendale*, 492 U.S. at 408, *infra* notes 120-125 and accompanying text; National Farmers Union Insurance Cos. v. Crow Tribe, 471 U.S. 845 (1985) (holding that the existence of jurisdiction is a federal question and federal courts should abstain until the tribe involved expresses itself on the question), and Montana v. United States, 450 U.S. 544 (1981), *supra* notes 40-42 and accompanying text.

53. 435 U.S. 191 (1978).

in three ways: voluntary surrender (as in a treaty with the United States government), unilateral diminishment by Congress, and by implication as found by the courts.[54] Loss of sovereignty through implication occurs when the exercise of tribal sovereignty would be inconsistent with tribes' dependent status.[55]

The *Oliphant* test, which prohibits any unauthorized exercise of tribal power but provides no specific restrictions,[56] seemingly allows courts to determine tribal sovereignty by judicial fiat. However, the seminal case of *Montana v. United States*[57] delineated the extent of tribal civil regulatory authority over non-Indians within reservation boundaries:

> To be sure, Indian Tribes retain inherent sovereign power to exercise some forms of civil jurisdiction over non-Indians on their reservations, even on non-Indian fee lands. A tribe may regulate, through taxation, licensing, or other means, the activities of non-members who enter consensual relationships with the tribe or its members, through commercial dealings, contracts, leases, or other arrangements . . . A tribe may also retain inherent power to exercise civil authority over the conduct of non-Indians on fee lands within its reservation when that conduct threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe.[58]

Tribal sovereignty does not completely bar the assertion of a state's authority in Indian Country, however.[59] Indeed, many controversies remain because state assertions of authority are said to stem primarily from the refusal of states to recognize Indian Country as extraterritorial to state borders.[60] Nonetheless, a presumption still runs against the application of state law within reservation boun-

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54. *Id.* at 208.

55. *Id.* Commentators have described the three-pronged test as "squishy" and "unsettled," and called for Congress to exercise its plenary power and legislate a definitive rule. Robert Laurence, *American Indians and the Environment: A Legal Primer for Newcomers to the Field*, NAT. RESOURCES & ENV'T, Spring 1993, at 4, 5.

56. 435 U.S. at 208. ("Indian tribes are prohibited from exercising both those powers of autonomous states that are expressly terminated by Congress *and* those powers '*inconsistent with their status*.'" (emphasis in original)).

57. 450 U.S. 544 (1981) (no tribal jurisdiction to regulate non-Indian hunting and fishing on non-Indian reservation lands). *See supra* notes 40-42 and accompanying text.

58. *Id.* at 565-66 (citations omitted).

59. Mescalero Apache Tribe v. Jones, 411 U.S. 145, 148 (1973), (citing Williams v. Lee, 358 U.S. 217, 219 (1959)).

60. Judith V. Royster & Rory SnowArrow Fausett, *Control of the Reservation Environment: Tribal Primacy, Federal Delegation, and the Limits of State Intrusion*, 64 WASH. L. REV. 581, 600 (1989) [hereinafter *Control of the Reservation Environment*].

daries.[61] This presumption rests on the courts' apparently increasing reliance on the doctrine of federal preemption. This doctrine holds that state regulatory laws cannot be applied within reservation boundaries "if their application will interfere with the achievement of policy goals underlying federal law relating to Indians."[62] The Supreme Court's most recent articulation of the modern test for preemption was in *California v. Cabazon Band of Mission Indians.*[63] The *Cabazon* test begins with a determination of the "backdrop" of tribal sovereignty and focuses on broad concepts of self-government and an examination of federal policies that promote self-government[64] Courts then balance the federal, tribal, and state interests impacted by the state regulatory effort. Federal law preempts state jurisdiction if it "interferes or is incompatible with federal and tribal interests reflected in federal law, unless the state interests at stake are sufficient to justify the assertion of state authority."[65]

The primary regulatory issue examined by this article concerns environmental and land use regulation in the context of Indian Country. Specifically, tribal authority to regulate in Indian Country arises from an inherent sovereign power, but tribes apparently exercise somewhat less than full sovereign powers over non-Indians on non-Indian lands within the reservation.

III. REGULATORY ISSUES IN INDIAN COUNTRY

A. Introduction

Land use planning and environmental regulation are distinct from one another in that land use planning concerns the actual *use* of land, but environmental regulation concerns controlling the *environmental*

61. *See, e.g.*, California v. Cabazon Band of Mission Indians, 480 U.S. 202, 214 (1987) (quoting New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 331-32 (1983) (state jurisdiction over natives is permissible only "in exceptional circumstances")); White Mountain Apache Tribe v. Bracker, 448 U.S. 136, 144 (1980) (when on-reservation conduct involving only Indians is at issue, state law is generally inapplicable). *Compare with* Montana v. United States, 450 U.S. 544 (1981) ("general proposition" in favor of state jurisdiction over non-natives, but sharply limited by broad areas of tribal sovereign power), *see supra* notes 40-42 and accompanying text.

62. B. Kevin Gover & Jana L. Walker, *Tribal Environmental Regulation*, 36 FED. B. NEWS & J. 438, 439 (1989) [hereinafter *Tribal Environmental Regulation*].

63. 480 U.S. 202 (1987).

64. The inquiry is to proceed in light of the traditional notions of Indian soverei gnty and the congressional goal of Indian self-government, including its "'overriding goal' of encouraging tribal self-sufficiency and economic development." *See Control of the Reservation Environment, supra* note 60, at 603 n.76 (citations omitted).

65. 480 U.S. at 216, *quoting* New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 333-34 (1983).

impact resulting from the land's use.[66] Thus, a tribe can prevent environmentally incompatible uses primarily by exercizing land use controls implemented through a comprehensive planning mechanism. Accordingly, some commentators assert, a tribe cannot exercise its full capacity to exclude environmentally harmful uses or to determine the location of permitted uses without the authority to implement its comprehensive plan through zoning.[67]

Waste disposal management on Indian lands became an important issue for tribal governments in 1989, when the Eighth Circuit Court of Appeals affirmed a decision finding that Indian tribes were liable under the Resource Conservation and Recovery Act[68] (RCRA) for cleaning up open dumps on reservations. The Court reached this result despite both the ineligibility of tribes to assume primary responsibility for RCRA enforcement on their reservations and the inability of tribes to benefit from the considerable sums of federal dollars spent to support state environmental programs.

B. Tribal Authority to Create and Enforce Environmental Regulations

The body of legal literature concerning Indian Country environmental regulation in general and commercial solid and hazardous waste regulation in particular has become increasingly rich in recent years.[69] Scholars generally agree that tribes have the right and the

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66. California Coastal Comm'n v. Granite Rock Co., 480 U.S. 572, 587 (1987) (emphasis added).

67. Judith V. Royster, *Environmental Protection and Native American Rights: Controlling Land Use Through Environmental Regulation*, 1 KAN. J.L. & PUB. POL'Y 89, 89 (1991) [hereinafter *Environmental Protection and Native American Rights*]. *See* discussion of the current state of Indian Country zoning controls *infra* part III(C).

68. 42 U.S.C. §§ 6901-6992k (1988).

69. *See e.g.*, Steven M. Christenson, *Regulatory Jurisdiction Over Non-Indian Hazardous Waste in Indian Country*, 72 IOWA L. REV. 1091 (1987); Mark J. Connot, Blue Legs v. United States Bureau of Indian Affairs: *An Expansion of BIA Duties Under the Snyder Act*, 36 S.D. L. REV. 382 (1991); B. Kevin Gover & Jana L. Walker, *Tribal Environmental Regulation*, 36 FED. B. NEWS & J. 438 (1989); Ruth L. Kovnat, *Solid Waste Regulation in Indian Country*, 21 N.M. L. REV. 121 (1990); Robert Laurence, *American Indians and the Environment: A Legal Primer for Newcomers to the Field*, NAT. RESOURCES & ENV'T, Spring 1993, at 5; Scott Morrison & LeAnne Howe, *The Sewage of Foreigners: An Examination of the Historical Precedent for Modern Waste Disposal on Indian Lands*, 39 FED. B. NEWS & J. 370 (1992); William W. Quinn, Jr., *Federal Environmental and Indian Law Confluent*, ARIZ. ATT'Y, Dec. 1992, at 19; *supra* note 67, at 89. *Control of the Reservation Environment, supra* note 60; Walter E. Stern, *Environmental Regulation on Indian Lands: A Business Perspective*, NAT. RESOURCES & ENV'T, Spring 1993, at 20; Catherine Baker Stetson & Kevin Gover, *CERCLA Liability and Regulation of Solid and Hazardous Waste on Indian Lands*, NAT. RESOURCES & ENV'T, Spring 1993, at 24; *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, *supra* note 10; Theresa A. Williams, *Pollution and Hazardous Waste on Indian Lands: Do Federal Laws Apply and Who May Enforce Them?*, 17 AM. INDIAN L. REV. 269 (1992); Amanda K. Wilson, *Hazardous and Solid Waste Dumping Grounds Under RCRA's Indian Law Loophole*, 30 SANTA CLARA L. REV. 1043 (1990); Douglas A. Brockman, Note, *Congressional Delegation of Environmental Regulatory Jurisdiction: Native American Control of the Reservation*

responsibility to regulate the disposition of both solid and hazardous waste. Until quite recently, however, tribes were neither permitted to exercise such a right nor required to meet such a responsibility.

Congress and the EPA encourage economic development and self-sufficiency through tribal governments' exercise of their environmental regulation powers.[70] Although tribal zoning authority has been restricted to areas of "essential Indian character," tribal control of the environment extends to the full reach of Indian Country.[71] In theory, then, no person or activity is beyond the reach of federal statutes or outside state jurisdiction. Special rules apply, however, when the regulating entity is a tribal government or when the regulated activity takes place in Indian Country.[72]

Given Congress's plenary power to include Indians and tribes within the scope of federal statutes, the initial inquiry is whether federal environmental regulatory statutes apply to Indians, tribes, and Indian lands.[73] Tribes can effectively regulate the reservation environment through federal laws only if they have authority over non-Indians as well as their own members.[74] The ability of a tribe to oversee or even to manage a solid or hazardous waste facility directly relates to its ability to enforce federal laws and to create and to enforce its own environmental regulations.

In the environmental law sphere, tribes can rely on the rule established in *Farris* that federal statutes generally applicable throughout the United States apply with equal force to Indian Country and its residents absent a treaty or federal statute to the contrary.[75] The EPA can therefore delegate program authority to Indians and tribes where the statute expressly provides for such a delegation.[76] Virtually all of the most important federal environmental statutes expressly provide for regulatory delegation or contain provisions for tribal participation. Tribal assumption of primary enforcement responsibility appears as the "tribes as states" clauses of such federal statutes as the Clean Air

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Environment, 41 Wash. U. J. URB. & CONTEMP. L. 133 (1992); Stephen M. Feldman, Comment, *The Developing Test for State Regulatory Jurisdiction in Indian Country: Application in the Context of Environmental Law*, 61 OR. L. REV. 561 (1982).

70. *Environmental Protection and Native American Rights*, *supra* note 67, at 94. *See* discussion *infra* part III(C).

71. *Id.* at 104.

72. *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, *supra* note 10, at 232.

73. *Tribal Environmental Regulation*, *supra* note 62, at 438.

74. *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, *supra* note 10, at 233.

75. United States v. Farris, 624 F.2d 890 (9th Cir. 1980), *supra* note 46 and accompanying text.

76. United States v. Mazurie, 419 U.S. 544 (1975).

Act,[77] the Clean Water Act,[78] the Safe Water Drinking Act,[79] and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).[80] One can find tribal participation provisions in both the Surface Mining Control and Reclamation Act[81] and the Federal Insecticide, Fungicide, and Rodenticide Act.[82]

Interpretation issues arise when federal environmental laws do not specifically refer to Indians and tribes but seemingly apply evenly to all persons or property.[83] Currently, only one major federal environmental statute, the Resource Conservation and Recovery Act (RCRA),[84] does not contain either a "tribes as states" clause or a provision for tribal participation.[85] RCRA provides standards for the management, production, transport, treatment, and disposal of hazardous waste. Under RCRA, states are responsible for siting such facilities.[86] Since the statute provides states with only a rudimentary framework for making such decisions,[87] states are also required to develop and implement appropriate siting procedures and standards.[88]

More importantly, however, RCRA provides for the EPA to "authorize" states, upon proper request, to administer and enforce RCRA programs within their borders.[89] RCRA places a high priority

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77. 42 U.S.C.A. § 7601(d) (1993).

78. 33 U.S.C. § 1377 (1988).

79. 42 U.S.C. § 300j-11 (1988).

80. 42 U.S.C. § 9626 (1988).

81. 30 U.S.C. § 1300 (1988).

82. 7 U.S.C. § 136 (1988).

83. COHEN, *supra* note 14, at 282.

84. 42 U.S.C. §§ 6901-6992 (1988).

85. Theresa A. Williams, *Pollution and Hazardous Waste on Indian Lands: Do Federal Laws Apply and Who May Enforce Them?*, 17 AM. INDIAN L. REV. 269, 285 (1992).

86. 42 U.S.C. § 6924 (1988).

87. Bram D.E. Carter, *Hazardous Waste Disposal and the New State Siting Programs*, 14 NAT. RESOURCES LAWYER 421, 430 (1982). The EPA currently requires siting decisions to meet just three broad criteria: (1) that a complete technical analysis of all proposed sites be completed before any single site is selected; (2) that site selection be accompanied by full public participation; and (3) that the process of selection not be hampered by blanket local vetoes. U.S. ENVIRONMENTAL PROTECTION AGENCY, HAZARDOUS WASTE FACILITY SITING: A CRITICAL PROBLEM (1980). In addition, the EPA has established its options for management of hazard ous waste, listed in order of decreasing preference: reduction of hazardous waste generation, separation and concentration of hazardous waste, utilization of wastes in other manufacturing processes, destruction in special incinerators or detoxification and neutralization, and disposal in secure landfills. U.S. ENVIRONMENTAL PROTECTION AGENCY, SOLID WASTE FACTS: A STATISTICAL HANDBOOK (1978).

88. *See, e.g.*, the Massachusetts Hazardous Waste Facility Siting Act, Mass. Gen. Laws Ann. ch. 21D, §§ 1 et al. (West 1981 & Supp. 1993).

89. States are eligible for such authorization upon submittal to the EPA of a program that is equivalent to the federal program, is consistent with the federal program and other state RCRA programs, provides for sufficient administration and resources, and provides for public access to information regarding the program. 42 U.S.C. § 6926(b), (f) (1988).

on the development of federal-state partnership in the regulation and management of hazardous waste. Congress intended the states to have the primary role in administering RCRA, which explicitly encourages states to obtain authorization to operate the hazardous waste regulatory program in lieu of EPA management.[90] In creating programs, states can impose regulations that are more—but not less—stringent than comparable RCRA regulations.[91] Finally, RCRA requires that all facilities treating, storing, or disposing of hazardous waste obtain an operating permit from the EPA, or if so authorized, the state.[92] Tribes planning to establish a hazardous waste project would obviously seek to be treated as a state under such a regime.

RCRA expressly includes tribes within the class of persons against whom the statute may be enforced,[93] but Congress has yet to amend the Act to allow tribes to be treated as states for authorization and permitting purposes. Therefore, although experts predict that RCRA will soon be brought into line with other federal environmental laws,[94] federally-recognized tribes cannot assume program responsibility under the Act as it stands in 1995. There are a host of issues unrelated to Indians surrounding the complex RCRA reauthorization process. However, many parties are actively attempting to secure the program development funding necessary to build a tribal delegation program.[95]

The absence of express acknowledgement of tribal jurisdictional authority in RCRA creates two unresolved issues: first, to what degree did Congress intend for RCRA to be applied to Indians and tribes, and second, whether and to what degree state law applies to reservations. Both issues will be discussed in this article.

As to the first issue, both substantive due process and the *Farris* rule demand that RCRA should be applied evenhandedly. If tribes are to bear RCRA's burdens, they should be able to enjoy its benefits as well. Despite the fact that tribes do not currently enjoy program delegation, two federal courts have held that RCRA applies to Indian

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90. 42 U.S.C. § 6902(a)(7) (1988).

91. 42 U.S.C. § 6929 (1988).

92. 42 U.S.C. § 6925(a), (c)(1) (1988).

93. RCRA includes tribes as "persons" subject to its provisions. Under RCRA, a "person" includes a municipality, 42 U.S.C. § 6903(15) (1988), and the definition of municipality includes tribes. § 6903(13). Tribes are thus subject to suit under RCRA's citizen suit provision. *Environmental Protection and Native American Rights*, *supra* note 67, at 99 n.89.

94. *See, e.g.*, National Waste Reduction, Recycling, and Management Act, H.R. 3865, 102nd Cong., 1st Sess. (1991); Indian Tribal Governmental Waste Management Act of 1991, S. 1687, 102nd Cong., 1st Sess. (1991).

95. Telephone interview with Mr. Edsidy, U.S. EPA Office of Pacific Islanders and Native Americans (March 22, 1994).

lands and may be enforced against tribes.[96] In *Blue Legs v. United States Bureau of Indian Affairs*[97] the Eighth Circuit Court of Appeals held that tribes have the inherent authority to regulate, operate and maintain dumps on their reservations as well as the concomitant liability for dumps that do not comply with RCRA. The court did not attempt to reconcile its holding with the fact that tribes are unable to secure grants or contracts to deal with waste problems under RCRA in its present incarnation. This holding obviously presents tribes with a classic "Catch-22."

The second issue, whether and to what degree state environmental laws apply to reservations in lieu of RCRA, was resolved by the Ninth Circuit Court of Appeals in *State of Washington Department of Ecology v. United States Environmental Protection Agency.*[98] The court first noted RCRA's silence regarding the authority of states to enforce their hazardous waste regulations against tribes or individuals on Indian land.[99] In ultimately holding that state environmental laws have no application to reservations,[100] the *Washington Ecology* court determined that the EPA reasonably interpreted RCRA as not granting state jurisdiction over the activities of Indians within reservation boundaries unless Congress had clearly expressed an intention to permit it.[101] Congress has apparently not expressed such an intention in RCRA. In addition, one could confidently argue that federal environmental laws fulfill the requirements of the *Cabazon* preemption test,[102] as the EPA promotes tribal self government through their application. One would be hard-pressed to forward a state interest sufficient to trump federal authority in this area.

Finally, EPA policy supports delegation of RCRA program authority to tribal governments. The EPA's "Indian Policy"[103] demonstrates compliance with the Reagan self-determination mandate and sets forth nine principles by which the EPA will pursue its objectives

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96. Blue Legs v. United States Bureau of Indian Affairs, 867 F.2d 1094 (8th Cir. 1989), *aff'g* Blue Legs v. EPA, 668 F.Supp. 1329 (D.S.D. 1987) (the Oglala Sioux Tribe, the BIA and the Indian Health Service are all liable for cleanup of open dumps on reservations under RCRA) and State of Washington Department of Ecology v. EPA, 752 F.2d 1465 (9th Cir. 1985) (prohibiting the application of state environmental law to reservations).

97. 867 F.2d 1094 (8th Cir. 1989).

98. 752 F.2d 1465 (9th Cir. 1985).

99. *Id.* at 1468.

100. *Id.* at 1472.

101. *Id.* at 1469.

102. California v. Cabazon Band of Mission Indians, 480 U.S. 202 (1987). The Cabazon test holds that federal law preempts state jurisdiction if it "interferes or is incompatible with federal and tribal interests reflected in federal law, unless the state interests at stake are sufficient to justify the assertion of state authority." *Id.* at 216. *See* discussion *supra* part II(C).

103. *See supra* note 27 and accompanying text.

with tribes. These principles include recognizing tribes as "sovereign entities with primary authority and responsibility" regarding reservation environmental matters; promoting cooperation in areas of mutual concern between federal, state, and tribal governments; cooperating with tribal governments as "the independent authority for reservation affairs, and not as political subdivisions of states"; and helping tribes to assume program responsibility.[104] The *Washington Ecology* decision supported these principles by holding that the EPA correctly interpreted RCRA's existing structure as precluding state authority in Indian Country.[105]

Congress, the courts, and the EPA currently view the states as having no jurisdiction to enforce environmental laws on reservations.[106] Indeed, tribes unquestionably have the authority to regulate waste facility operations on their reservations because the quality of the reservation environment unquestionably has a direct effect on the health and welfare of the tribe.[107] Cases interpreting *Montana v. United States*[108] have upheld tribal jurisdiction on non-Indian-owned fee lands for tribal health and safety regulations.[109] In addition, the *Washington Ecology* court explicitly reiterated the Ninth Circuit's approval of the EPA's efforts to promote tribal self-government in environmental matters[110] in *Nance v. United States Environmental Protection Agency*.[111] The current state of RCRA certainly would not preclude tribes from creating an enforcement and permitting mechanism, but amending RCRA to acknowledge tribal jurisdictional authority undoubtedly would enable tribes to establish the only regulatory system governing solid and hazardous waste disposal on Indian lands.[112]

C. Tribal Authority to Enforce Land Use Planning and Zoning Controls

Effective and responsible land use planning relies on the will and ability to plan, processes that are open to full public participation, competent governmental management, and government financial

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104. *See supra* note 27 at 2-4.

105. State of Washington Department of Ecology v. United States Environmental Protection Agency, 752 F. 2d 1465, 1469 (9th Cir. 1985). *See supra* notes 98-102 and accompanying text.

106. *See* discussion *supra* notes 98-105 and accompanying text.

107. *Tribal Environmental Regulation*, *supra* note 62, at 444.

108. 450 U.S. 544 (1981). *See supra* notes 40-42 and accompanying text.

109. *See, e.g.*, Cardin v. De La Cruz, 671 F.2d 363 (9th Cir.), *cert. denied*, 459 U.S. 967 (1982).

110. State of Washington Department of Ecology v. United States Environmental Protection Agency, 752 F.2d 1465, 1471-72 (9th Cir. 1985).

111. 645 F.2d 701 (9th Cir. 1981).

112. *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, *supra* note 10, at 239.

solvency. The manifestation of these ideals is the tribal comprehensive plan and its implementing device, the tribal zoning ordinance. The comprehensive planning process is by definition a local concern in jurisdictions throughout the United States. The process would determine both the desirability and the location of a commercial solid or hazardous waste facility on a reservation. Though Indian tribes clearly possess the sovereign authority required for comprehensive planning, the atmosphere surrounding their ability to zone non-Indian lands within their reservations is cloudy. This uncertainty can only erode a tribal government's confidence in engaging in land use planning through zoning, a primary method through which tribal governments are able to regulate activities that may have detrimental effects on tribal health and safety.

Territory has been described as the *sine qua non* of sovereignty.[113] As of 1990, 220 tribes controlled sixty million acres, or three percent, of the United States' land base, territory generally characterized by open space, sparse population, and largely pristine environments[114] This "checkerboard"[115] ownership pattern is intensely complicated: some land is held in trust by the United States for the benefit of the tribe ("tribal trust land"); some land is held by tribal members subject to a trust ("Indian allotments"); some land is held in fee by tribal members ("Indian fee land"); and the rest of the land is held in fee by non-members ("non-Indian fee land").[116] The unwieldy and unworkable[117] patchwork of competing governmental authorities has been described as the "hopelessly crumpled fabric of the law of . . . regulatory jurisdiction in Indian Country."[118] The territorial sovereignty of tribes, consequently, is further undermined. The determination of regulatory authority over each of the checkerboard's constituent parts directly bears on the source and extent of inherent sovereign tribal powers to regulate through zoning activities that threaten tribal health and environment.

Though the level of scrutiny lavished on Indian Country zoning has not remotely approached that of tribal environmental regulations, commentators have engaged in serious examinations of this issue[119]

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113. *Environmental Protection and Native American Rights*, *supra* note 67, at 89.

114. Richard A. DuBey et al., *Protection of the Reservation Environment: Hazardous Waste Management on Indian Land*, 18 ENVTL. L. 449 (1988).

115. *Id.* at 474.

116. Ruth L. Kovnat, *Solid Waste Regulation in Indian Country*, 21 N.M. L. REV. 121, 121 (1990).

117. *Environmental Protection and Native American Rights*, *supra* note 67, at 91.

118. *See* note 116, at 123.

119. *See*, e.g., J. Bart Wright, Note, *Tribes v. States: Zoning Indian Reservations*, 32 NAT. RESOURCES J. 195 (1992); Craighton Goeppele, Note, *Solutions for Uneasy Neighbors: Regulating*

Prior to the landmark case of *Brendale v. Confederated Tribes and Bands of Yakima Indian Nation*,[120] tribes opposed to non-Indian activity within the reservation that could cause environmental damage could simply zone reservation lands, regardless of ownership, to protect or to control the location of environmentally harmful concerns.[121] This authority arose directly from the inherent tribal police power, and was supported by the *Montana* decision. Thus, tribes could freely zone any part of the land within their reservation boundaries for the location of a hazardous waste facility, presuming the location satisfied RCRA technical criteria.

The *Brendale* decision shattered the ability of many tribes to control land use in their territories. The *Brendale* court did not question tribes' sovereign right to zone trust lands within reservation boundaries;[122] nevertheless, the Court limited tribal authority to zone non-Indian lands on those reservations or parts of reservations that contained "substantial" non-Indian land ownership.[123] Where all or part of a reservation has significant non-Indian ownership, the state or the county has land use control over all non-Indian land.[124] Thus, any tribe contemplating a hazardous waste facility would be well-advised to zone for its location on land clearly controlled by the tribe.

Brendale represents a serious intrusion into the heart of tribal sovereignty: Indian control of land within reservation boundaries. Those tribes whose reservations contain significant amounts of non-

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the Reservation Environment After Brendale v. Confederated Tribes & Bands of Yakima Indian Nation, 109 S. Ct. 2994 (1989), 65 WASH. L. REV. 417 (1990).

120. 492 U.S. 408 (1989).

121. *Environmental Protection and Native American Rights*, *supra* note 67, at 91.

122. 492 U.S. 408, 428 (1989).

123. *Id.* at 422. The decision itself is badly fractured. Four Justices found that the county had exclusive zoning authority over all non-Indian land. *Id.* at 409 (Justices White, Rehnquist, Scalia and Kennedy). Three others held that the tribe had exclusive zoning authority over all land within the reservation. *Id.* at 468 (Justices Blackmun, Brennan and Marshall). Two Justices found that the tribal right to zone depended on the essential Indian character of the land. *Id.* at 411 (Justices Stevens and O'Connor). Though one can distinguish the physical character of many Indian lands from that at issue in *Brendale*, the decision nonetheless compels a tribe to assess the percentage of non-Indian-owned property within its reservation when considering the establishment of a zoning ordinance. This requirement could obviously work to chill the zoning activities of those tribes unfortunate enough to lack the necessary financial and administrative resources. *Id.* at 424 (Justices White, Rehnquist, and Scalia dissenting).

Notably, Justice Blackmun's *Brendale* dissent interprets Montana v. United States, 450 U.S. 544 (1981), as contemplating tribal civil jurisdiction over non-Indians who reside within their reservations' boundaries when those powers are central to self-government. Justice Blackmun observed that "[i]t would be difficult to conceive of a power more central to 'the economic security, or the health and welfare of the tribe,' than the power to zone." *Brendale*, 492 U.S. at 458 (quoting *Montana*, 450 U.S. at 566) (concurring, dissenting opinion). *Brendale* thus apparently erodes tribal sovereignty in a way that the *Montana* Court anticipated and tried to discourage.

124. *Environmental Protection and Native American Rights*, *supra* note 67, at 92.

Indian land ownership have apparently lost the authority to regulate reservation land use planning through zoning. Consequently, commentators have noted, these tribes have lost their first-line environmental defense mechanism: the control of the location of environmentally harmful activities.[125] In the post-*Brendale* reservation regulatory environment, commercial solid and hazardous waste facilities still hold promise as the linchpin that links tribal environmental and land use controls.

IV. A MODEL SYSTEM OF LAND USE PLANNING IN INDIAN COUNTRY

A. *Introduction*

In the early 1980's, the EPA commissioned the Council of Energy Resources Tribes (CERT) to determine the extent and location of hazardous waste sites in Indian Country. Their findings, published in the "CERT Study,"[126] revealed that over 1200 hazardous waste generators or other hazardous waste activity sites were located on or near twenty-five reservations. Presumably, this concentration has increased in the time that has elapsed between the CERT study and today. Thus, tribes have a distinct interest in participating in the location and monitoring of such facilities because of their concentration and the potential health risks they pose. In fact, tribes are in a unique legal and political position to recruit actively these types of facilities as an economic development mechanism.

Indian Country waste disposal really revolves around two questions. First, how to dispose of both reservation-generated and illegally-dumped solid waste is worthy of examination, but it is beyond the scope of this article. Whether a tribe wants to use its land as a site for a commercial waste project as a form of economic development[127] is another question. A model system of land use planning in Indian Country that can assist tribes in assessing the propriety of pursuing a commercial hazardous waste project follows. Based on four existing tribal initiatives, the model is composed of the ingredients necessary to a successful commercial waste project planning initiative: a comprehensive planning process, a stringent land use evaluation and permitting system, an effective public par-

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125. *Id.* at 89.

126. COUNCIL OF ENERGY RESOURCE TRIBES, INVENTORY OF HAZARDOUS WASTE GENERATORS AND SITES ON SELECTED INDIAN RESERVATIONS (July 1985).

127. Kevin Gover & Jana L. Walker, *Escaping Environmental Paternalism: One Tribe's Approach to Developing a Commercial Waste Disposal Project in Indian Country*, 63 COLO. L. REV. 933, 933 (1992) [hereinafter, *Escaping Environmental Paternalism*].

ticipation process, and a scheme for commercial solid and hazardous waste project planning. Tribes do not currently possess the power under RCRA unilaterally to manage and to regulate these projects, but EPA policy indicates that tribes could successfully engage the EPA in a joint effort to establish commercial hazardous waste initiatives in Indian Country.[128]

B. Comprehensive Planning Process: White Mountain Apache Tribe (Arizona)[129]

The White Mountain Apache tribe is a recognized leader in creative and successful Indian Country economic development initiatives.[130] The tribe engaged Jonathan Taylor of the Harvard Project on American Indian Economic Development to assist in the design of a comprehensive planning process influenced by the highly-respected Confederated Salish & Kootenai tribes' model.[131] The four-phase prototype process outlined below is the result of this collaboration.

1. Deciding to Plan.

Preparation for planning would begin with a general consensus-building meeting of the tribe's main leadership, which would include the Chairperson, the Council, the managers of tribal enterprises, the directors of the tribal government, and leaders from previous administrations. In reviewing planning principles and discussing the merits of planning, this group would ideally create a Planning Task Force (PTF). The PTF would be responsible for carrying out the coordination work of the planning process. The PTF's form and membership would vary by tribe.

The PTF would initially engage in an assessment of what elements the planning process would include, such as the duration and staging of planning phases, the role and degree of involvement of various tribal institutions, the project's staff and budgetary needs, funding source identification, and the form of a Memorandum of Understanding with the Bureau of Indian Affairs (BIA). Once the process is designed, the PTF would submit the proposal to the tribal

128. *See supra* note 27.

129. *See* JONATHAN B. TAYLOR, NEGOTIATING A VISION: PRINCIPLES OF COMPREHENSIVE RESOURCE PLANNING AND A PLANNING PROCESS FOR THE WHITE MOUNTAIN APACHE TRIBE (Harvard Project on American Indian Economic Development, 1992).

130. *See, e.g.*, Erik Eckholm, *The Native and Not So Native American Way*, N.Y. TIMES MAGAZINE, Feb. 27, 1994, at 45.

131. Confederated Salish & Kootenai Tribes, Proposal to Administration for Native Americans for a Comprehensive Plan Development Project (Oct. 14, 1988) (unpublished manuscript, cited in TAYLOR, *supra* note 129).

Council for review. With the support of the Council, the PTF would begin developing institutions and soliciting public opinion.

2. Evaluating Current Conditions and Choosing Future Goals

This iterative, reciprocal process involves technical experts educating the public about past land use practices, current conditions, and future possibilities. Additionally, the public communicates its preferences, goals, and values to the experts. First, the PTF and the Council draft the scope of the plan. Once this sketch is completed, the PTF would create tribal and BIA technical teams as well as other institutions necessary for the plan's development and implementation. The relationship between such institutions is illustrated in Appendix 1.

Many tribes will not likely possess the in-house expertise required to conduct the interdisciplinary technical work to follow. Such tribes can contract out, develop the necessary talent internally, or allow the BIA to execute the necessary planning analysis. In any case, the PTF should ensure objective analysts. While the technical teams begin collecting and assessing the data needs of the plan, the PTF should begin soliciting public opinion and goals. Finally, the PTF must collate and summarize the technical teams' and public hearings' findings for Council approval. It is critical that this summary be in a written form, which describes current conditions as well as the plan's scope and goals.

3. Generating Alternatives and Choosing Among Them

The generation of policy alternatives to accomplish identified goals is best accomplished by the technical teams, tribal enterprise managers, and department directors. The technical team presumably has a good sense of current conditions and their causes. Including managers and directors at this point gives them an "ownership interest" in the plan. Because they ultimately implement the policies generated in this phase, the chances of successful implementation are improved.

The PTF should hold another round of public hearings after it creates policy alternatives and distributes these to the Council, associations, and tribal members. Public comment then should be recorded. The PTF should then draft a final list of alternatives, including a summary of public commentary, for the Council. The Council then should evaluate the work of the PTF and should choose among the policy alternatives in approving the plan.

4. Putting the Plan to Work and Reviewing Its Outcomes

To avoid being "just another study," the plan must be implemented. Planning policies must be developed into guidelines for day-to-day decision making, and a new organization superseding the PTF and technical teams would be necessary. This monitoring body, termed a Comprehensive Plan Review Board, would establish the guidelines for managers and directors, thus transferring the goals into performance standards. Finally, the Council should decide whether the process of developing the plan furthered tribal interests.

C. Land Use Evaluation & Permitting: Puyallup Tribe (Washington)[132]

Tribes need to build strong institutional structures for enforcing federal laws and for developing and enforcing tribal land use and environmental laws. Informed by the legal status of Indian lands, Paul Nissenbaum and Paul Shadle developed a model system for devising and implementing land use policies and procedures through the processing of land use proposals. The model seeks to weed out unacceptable proposals while expediting approval of options that promote tribal goals.

1. Recognizing the Necessity of Long-Range Comprehensive Planning

The Puyallup model is founded on tribes establishing a long-range planning strategy. As in the approach of the White Mountain Apache Tribe,[133] a tribe must conduct a thorough inventory of its lands. If a tribe is presently unable to assess its lands and long-term land-related needs, it should develop a system to do so before entering into this phase.

2. Alternatives to Traditional Zoning

Given the nature of land ownership in Indian country,[134] tribes must implement zoning systems significantly different than the traditional "Euclidian" system.[135] Performance, or "flexible," zoning schemes allow a tribe to set standards and goals with which to guide market-driven development projects. Performance-based schemes avoid the problems associated with mapping out the entire jurisdiction into use districts, the hallmark of Euclidean zoning.

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132. *See* Paul Nissenbaum and Paul Shadle, *Building a System for Land-Use Planning, in* WHAT CAN TRIBES DO? STRATEGIES AND INSTITUTIONS IN AMERICAN INDIAN ECONOMIC DEVELOPMENT (Stephen Cornell et al. eds., 1992).

133. *See supra* notes 129-31 and accompanying text.

134. *See supra* notes 113-18.

135. Euclid v. Ambler Realty Co., 272 U.S. 365 (1926).

Flexible zoning evaluates the appropriateness of development proposals in terms of tribal policy priorities, rather than predesignated uses for particular locations. Two types of criteria drive this scheme: absolute and variable. Absolute criteria, which apply to all developments, address compliance with adopted comprehensive plans, minimum requirements for engineering and public services, and environmental and site design standards. Variable criteria assign "performance points" to proposals based on type of use, impact, and community preferences. This weighting system is designed to guide projects toward the achievement of long-term development goals identified in the comprehensive plan.

3. Proposal Evaluation Standards

This element of the model addresses a recognized fundamental inadequacy in that most tribal planning systems lack a method for evaluating pending proposals. Any systematic approach to land use development appraisal must be based on identifiable criteria. These criteria essentially serve as a checklist against which all development proposals are judged. The model proposes two types of evaluation criteria: baseline and variable. Baseline criteria are fundamental standards for development which can be clearly defined and measured. Applied uniformly to all development projects, these criteria concern building and safety codes, environmental impact assessments, and infrastructure capacity, heights, setbacks, floor-to-area ratios, parking, and signage. Variable criteria, in contrast, are not as easily quantified. Their application and weight will necessarily vary depending on the type of project and tribal planning priorities at the time of review. These criteria concern cultural enrichment, economic development, financial benefit, human services provisions, natural resource preservation, and sovereign identity promotion.

4. Implementing a Comprehensive Permitting Process

Any facility that receives hazardous waste must receive a permit from the EPA or an authorized state. Given RCRA's current configuration, the EPA would be the primary permitting entity in Indian Country. However, as the EPA is likely unable to keep tribal interests paramount, detailed decision-making consistent with RCRA procedures is best left to the tribes. Given the EPA's self-determination policy, tribes arguably have a tremendous opportunity in guiding hazardous waste facility permitting.

The evaluation standards set forth in this model are useless without some means of implementing the baseline and variable criteria. The scheme described in this part is composed of five phases: baseline

code review; staff analysis; community evaluation; planning commission decision; and tribal council oversight, and is presented in Appendix 2.

Any land use project, from a minor building alteration to a hazardous waste disposal facility, would be required to go through Baseline Code Review. This review would ensure compliance with baseline criteria and would strive to achieve fairness and objectivity in meeting tribal standards. Requiring this step would also discourage wasteful ad hoc activity, which consumes scarce tribal administrative resources. Evaluation at this phase would be carried out by staff members of the tribal environmental, land use or planning divisions, or perhaps contracting out where expertise is lacking.

Any project designated "high impact" moves into the Staff Analysis phase, which implements the variable criteria. In contrast to Baseline Code Review, no two proposals would undergo the identical set of tests. Evaluation at this phase would be coordinated by staff members who may or may not be members of a tribal Planning Commission. This Planning Commission could be the same organization as the Comprehensive Plan Review Board proposed in part IV(B)(4) above. After the application passes phases one and two, the Planning Commission would receive it with staff comments.

The Planning Commission would then coordinate a Community Review. This phase could serve to prevent internal conflict among tribal members as well as a method of electing feedback from affected parties. Following the Review, the application should be formally considered by the Planning Commission or tribal Council. The purpose of this phase is to synthesize all of the information gathered and to render a decision in light of tribal policy priorities. The Council may be benefitted by postponing its involvement in the process until this point, given the Council's broad policy agenda and chronic time shortages. Finally, to ensure that the Council retains a degree of authority over crucial development matters, it would approve or disapprove such applications during a regularly-scheduled meeting. The Council should allow aggrieved parties to appeal this decision to tribal courts.

D. Public Participation Process: Gila River Pima Tribe (Arizona)[136]

This 1993 American Planning Association award-winning public participation process[137] was designed in response to the tribe's request

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136. *See* STERZOR GROSS HALLOCK, INC., GILA RIVER INDIAN COMMUNITY PUBLIC PARTICIPATION PROGRAM (1992).

for assistance in developing a land use management plan, a water budget, and a water rights claim. Over half of the adults of the 12,000-member tribe participated in over fifty meetings that took place in 1985; the process was built on the cultural pattern of village-based grass roots democracy and consensus decision-making. The importance of integrating the Gila River process into the model scheme proposed by this article cannot be overstated. Meaningful public participation cuts across each phase of the model scheme, and the Gila River model is arguably the most appropriate way to go about eliciting this participation.

The consultant team recommended that non-Indians adhere to seven basic principles in order to engage Indians in a constructive dialogue:

> 1. One must recognize that Native Americans have every right to their beliefs and way of life.
> 2. One must understand the differences between various Native American cultures.
> 3. One must learn about the specific culture one is dealing with.
> 4. One must listen carefully to individual Native Americans to find out how they view themselves.
> 5. One must be aware of, but not participate in, their politics; allow them to run their own government.
> 6. One must defer to Native American political and cultural structure when formulating decisions.
> 7. Most importantly, one must accept their decisions.

In applying these concepts to the process, the consultants learned the elements necessary to create a successful public process. Primarily, non-Indians should ask rather than act when in doubt. Also, participation implied change, which caused anxiety among the tribal members. White culture too often has treated Indians with equal doses of arrogance and ignorance, and this has led to trepidation on the part of Indians. Significantly, consensus decision-making means that there may be fifty leaders and not one. Serving food at gatherings created a non-adversarial setting, and asking the governing committee when they would be gathering for their events rather than scheduling them independently ensured fuller participation. Further, the Gila people were not likely to put anything in writing to transfer their perspectives on the process, but were open to visits from other aboriginal groups. Finally, they were able to achieve a comfort level

137. Mary Lou Gallagher, *1993 Planning Awards—Comprehensive Planning: Small Jurisdiction*, 59 PLANNING 12 (March 1993).

with a single plan given that the process was truly participatory and that the plan would be isolated from change in government.

E. Commercial Solid and Hazardous Waste Project Planning: Campo Band of Mission Indians (California)[138]

The Campo project is the sole example of a commercial waste project in Indian Country. While the project itself was one involving a commercial solid waste facility, its principles are generally transferrable to hazardous waste projects. Jana L. Walker and Kevin Gover, the lawyers who developed the program, convincingly maintain that the process described below is likely to lead to successful projects.

1. Developing an Infrastructure that Minimizes Environmental Liabilities Associated with Commercial Waste Projects

Tribes are widely considered to be unattractive business partners, and reservations remain some of the least developed areas in the United States. Much of the problem is that tribes have not developed the institutional infrastructure to provide outsiders with some comfort regarding doing business on the reservation. Environmental liability is a major concern, as RCRA compliance and penalty costs can be overwhelming.[139] The EPA can enforce its laws and regulations against generators, transporters, owners, and operators of hazardous waste treatment, storage, and disposal facilities.[140]

Development on reservations is impaired primarily by the absence of tribal regulatory structures. Tribes must develop a legal infrastructure to allow themselves to participate in and ultimately to control the application of federal law. This type of infrastructure would also enable tribes to prevent the application of state laws to businesses on the reservation. Providing prospective developers with predictability is the goal of creating such a system. The main elements of this system are tribal environmental codes, operating standards, environmental audit, other tribal codes, business form choice, and insurance.

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138. *See Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands, supra* note 10 and *Escaping Environmental Paternalism, supra* note 127.

139. Federal environmental statutes extend liability to anyone who buys, sells, leases, develops, or manages land, including tribal land. *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands, supra* note 10, at 241.

140. *Id.*

By assuming primary responsibility under federal environmental law, tribes can establish environmental quality standards suited to local and individual situations. Even when federal laws, like RCRA, do not contain tribal amendments providing for primary program responsibility, tribes should promulgate waste codes and regulations. These codes must be sensitive to public opposition and must explicitly provide for coordination with RCRA and neighboring states and reservations. These codes must be designed to be as stringent as the hazardous waste laws of the state in which the reservation is located.

Tribes must develop and enforce effective operating standards that provide for and employ state-of-the-art technologies. These standards must also require that immediate notice be given upon the discovery of contamination or discharge. Environmental audits are becoming commonplace and can be expected to be a requirement for transactions involving real estate or corporations with physical assets. Tribes should require advanced audits that combine technical and legal approaches and should conduct periodic site inspections to monitor potentially dangerous activities on their lands. Tribes should also invite developers to assist them with tax, land use, and business practice codes. Developers' participation in tribal law-making that affects them will increase their confidence that the tribe will not undertake a regulatory program that unduly burdens the project.

The tribal leadership must also decide on an appropriate business form for tribal enterprise. Alternative business forms range from tribally-owned sole proprietorships to numerous forms of joint venture. A corporation, though, is likely the best choice in the case of commercial waste projects, given the enormous potential environmental liability.[141] Insurance coverage is usually limited to "sudden and accidental" pollution. Courts are divided regarding whether comprehensive liability policies cover hazardous waste cleanups and response costs. It is thus critical for a tribe to understand its policy coverage. A tribe may also charge fees to build a cash reserve for additional self-insurance.

2. Feasibility

A tribe should conduct feasibility studies before embarking on any economic development project. Such studies use sophisticated cost-

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141. "Using a corporate form to conduct commercial for-profit activities shields a tribe against liability so long as the tribal government does not overlap or control the tribal corporation, oversee the corporation's financial and operating procedures, or share officers." *Id.* at 247.

benefit analyses and identify potential business opportunities based on a tribe's specific investment and development strategies.

3. Building and Maintaining Community Support

The reservation is as susceptible to the NIMBY syndrome as any other environment. Thus, because commercial waste projects receive high media exposure, it is extremely important that tribes considering such projects have the enthusiastic support of their members. Community meetings and open hearings like those described in part IV(D) above, conducted by the tribe, facilitate member participation.

4. Financing the Project

Commercial waste projects are attractive to tribes because such projects require no equity outlay at the beginning of the project, as the developers typically incur these costs. Nevertheless, tribes may seek financial advice to determine the availability of federal grants and other public and private funding mechanisms.

5. Finding the Vendor

Whether the vendor pursues the tribe or vice versa, the tribe should thoroughly investigate the background, reputation, project history, and financial condition of potential developers.

6. Environmental Impact Statement (EIS)

The mandatory approval of the Department of the Interior for real estate transactions on the reservation can clearly be deemed a "major federal action" for purposes of the National Environmental Policy Act (NEPA),[142] and major federal action requires the preparation of an EIS.[143] By providing primary operating standards for a project, the EIS can become the cornerstone of a tribal regulatory program. Private consultants can be indispensable in shepherding the EIS through the BIA review process's potential bottlenecks.

7. Tribal-State Cooperative Agreements for Technical Services

Tribes should seek to create intergovernmental agreements with the states in which their reservation is located. Such joint adminis-

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142. 42 U.S.C. §§ 4321-4370(a) (1988).
143. 42 U.S.C. § 4331 (1988).

tration by agreement is essential because pollution does not respect political boundaries. Moreover, joint regulated programs avoid jurisdictional disputes and promote economic efficiency by reducing administrative costs. Such agreements may also give tribes the ability to call upon state resources and expertise in creating tribal programs.

Ms. Walker and Mr. Gover maintain that the Campo Band's experience in implementing this system demonstrates that existing laws can be successfully employed to further tribal aims if three elements are present: a tribal community that sincerely desires effective environmental protection; officials at every level of the BIA who are willing to conduct a careful and comprehensive environmental review process; and developers who are not discouraged by the rigorous tribal and federal environmental review.[144] The Campo Band benefitted in terms of employment and revenue, an increased sense of pride and purpose, and in demonstrating that a principled application of tribal proprietary and regulatory powers can help to achieve economic self-sufficiency. Predictably, though, the Band is facing reservation-based NIMBY resistance as well as attacks from their non-Indian neighbors and environmentalist "allies."[145]

V. POLICY RECOMMENDATIONS AND CONCLUSION

The analysis presented above indicates that tribes not only have a need for regulating their own environment in a way that can promote economic self-sufficiency, but they also have the legal right to do so. There are five areas, however, in which tribes can take action to further establish the contours of reservation economic development through environmental and land use planning:

1. Tribes should lobby Congress to amend RCRA to allow tribes to be treated as states for purposes of regulation and grant programs.
2. Tribes must carefully weigh the economic benefits of commercial hazardous waste facilities against the environmental risks they pose as well as lost opportunity costs.
3. Tribes should develop comprehensive plans and zoning ordinances that, together with RCRA, establish the location of hazardous waste facilities on Indian-controlled land.
4. Each tribe that contemplates pursuing this form of economic development should develop a workable regulatory and administrative framework that reflects their particular financial situation.

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144. *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, *supra* note 10, at 258.

145. The Band's opponents included local NIMBYs as well as the Sierra Club and two waste disposal firms. *Escaping Environmental Paternalism*, *supra* note 127, at 941.

5. Tribes may seek to create Inter-Tribal Waste Management Compacts in order to share information and to allocate risk according to tribal principles.

Underlying these recommendations is an understanding that Native Americans' relationship with the land may or may not comport with mainstream environmentalism.[146] As a predicate to throwing its support blindly behind Indian communities, it appears that

> Much of the environmental community seems to assume that, if an Indian community decides to accept such a project, it either does not understand the potential consequences or has been bamboozled by an unprincipled waste company. In either case, the clear implication is that Indians lack the intelligence to balance and protect adequately their own economic and environmental interests.[147]

This "concern" can, in fact, be considered another form of "environmental racism," one that simply turns the conventional definition on its ear.

The environmental community external to Indian Country must come to realize that not all commercial hazardous waste projects are unwanted by the host community and that, in those cases where a community wishes to have such a facility, its decision should be respected.[148] Such facilities can best address the long-standing problems of "poor waste disposal systems, inadequate regulation, and unauthorized dumping in Indian Country."[149] Given full federal support, including financial and administrative assistance as well as timely intervention in instances of state interference, tribes are capable of deciding how best to confront their environmental problems and pursue their development objectives.

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146. *See* James L. Huffman, *An Exploratory Essay on Native Americans and Environmentalism*, 63 U. COLO. L. REV. 901 (1992).

147. *Escaping Environmental Paternalism*, *supra* note 127, at 942.

148. *Id.* at 933.

149. *Commercial Solid and Hazardous Waste Disposal Projects on Indian Lands*, *supra* note 10, at 262.

WILL FLORIDA'S NEW NET BAN SINK OR SWIM?: EXPLORING THE CONSTITUTIONAL CHALLENGES TO STATE MARINE FISHERY RESTRICTIONS

ALEXANDRA M. RENARD*

> [Santiago] was sorry for the great fish that had nothing to eat and his determination to kill him never relaxed in his sorrow for him. How many people will he feed, he thought. . . . I do not understand these things . . . . [b]ut it is good that we do not have to kill the sun or the moon or the stars. It is enough to live on the sea and kill our true brothers.[1]

Today, very few fishermen harvest the sea with the same archaic tools used by Hemingway's noble protagonist. Gaffs and harpoons have long yielded to the more swift, more efficient and more profitable use of drift, gill and other entangling nets which snare virtually anything unfortunate enough to encounter them.[2] More recently though, repercussions of this indiscriminate and extremely resourceful method of fishing are generating a mass wave of social, political and environmental awareness; the widespread collapse of specific fisheries, the disruption in the aquatic foodchain, and the increased "by-catch" of non-targeted marine species are prompting nationwide campaigns aimed at curtailing or altogether prohibiting the use of entanglement nets in coastal waters. Preservation and

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1. ERNEST HEMINGWAY, THE OLD MAN AND THE SEA 75 (MacMillan 1986) (1952).

2. A gill net consists of one or more walls of netting constructed of light, limp transparent monofilament line tied into square openings of various "mesh" sizes. Capture is accomplished when a fish swims through the mesh; as only the head fits into the opening, the plastic line slips under the fish's gills, thereby compressing the gills and eventually suffocating the fish. Often exceeding six football fields in length, gill nets are typically thrown overboard and suspended vertically by means of a buoy and lead weight at each end. The net is dispensed as the fisherman motors along. Later, it is pulled back aboard the boat for retrieval of the entangled fish.

Unlike the gill net, a drift net is not anchored to the sea floor and instead drifts with the current, ensnaring its prey in much the same manner. Other entangling nets commonly used in the commercial fishing industry include: the trammel net, a cousin to the gill net formed by hanging three walls of mesh to a single float and lead line; and the stab net, which operates with heavy weights that sink the net to the lower portion of the water column and render it invisible from the surface. Stab nets are frequently used near the mouths of creeks and channels and remain in place for an extended period of time. Robin Smillie & Biff Lampton, *Dictionary of Destruction*, FLORIDA SPORTSMAN, Oct. 1994, at 37-38.

proper management of these important resources are top priority. But in this flood of environmental consciousness and the legislation it is propagating, the livelihood of commercial fishermen is taking a considerable beating. Nets are indispensable to the commercial fisherman's way of life, and with minimal vocational skills, many of these fishermen fear net bans as a grim road to unemployment. Nevertheless, subtract net bans from any coastal community's agenda and the road will lead to unemployment and much more.

On November 8, 1994, the voters of Florida settled the fate of their state's marine resources by passing a constitutional amendment prohibiting the use of entangling nets in all Florida waters, as well as other nets larger than 500 square feet of mesh area in nearshore and inshore waters.[3] The amendment, effective July 1, 1995, reflects the

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3. Article X of the Florida Constitution is effectively amended to read as follows:

Section 16. Limiting Marine Net Fishing

(a) The marine resources of the State of Florida belong to all of the people of the state and should be conserved and managed for the benefit of the state, its people, and future generations. To this end the people hereby enact limitations on marine net fishing in Florida waters to protect saltwater finfish, shellfish, and other marine animals from unnecessary killing, overfishing and waste.

(b) For the purpose of catching or taking any saltwater finfish, shellfish or other marine animals in Florida waters:

(1) No gill nets or other entangling nets shall be used in any Florida waters; and

(2) In addition to the prohibition set forth in (1), no other type of net containing more than 500 square feet of mesh area shall be used in nearshore and inshore Florida waters. Additionally, no more than two such nets, which shall not be connected, shall be used from any vessel, and no person not on a vessel shall use more than one such net in nearshore and inshore Florida waters.

(c) For purposes of this section:

(1) "gill net" means one or more walls of netting which captures saltwater finfish by ensnaring or entangling them in the meshes of the net by the gills, and "entangling net" means a drift net, trammel net, stab net, or any other net which captures saltwater finfish, shellfish, or other marine animals by causing all or part of heads, fins, legs, or other body parts to become entangled or ensnared in the meshes of the net, but a hand thrown cast net is not a gill or an entangling net;

(2) "mesh area" of a net means the total area of netting with the meshes open to comprise the maximum square footage. The square footage shall be calculated using standard mathematical formulas for geometric shapes. Seines and other rectangular nets shall be calculated using the maximum length and maximum width of the netting. Trawls and other bag type nets shall be calculated as a cone using the maximum circumference of the net mouth to derive the radius, and the maximum length from the net mouth to the tail end of the net to derive the slant height. Calculations for any other nets or combination type nets shall be based on the shapes of the individual components;

(3) "coastline" means the territorial sea base line for the State of Florida established pursuant to the laws of the United States of America;

(4) "Florida waters" means the waters of the Atlantic Ocean, the Gulf of Mexico, the Straits of Florida, and any other bodies of water under the jurisdiction of the State of Florida, whether coastal, intracoastal or inland, and any part thereof; and

long-awaited outcome of an extensive statewide campaign by many Floridians who, frustrated by politicians' inaction on the issue, felt the time was ripe to enact conservation measures to protect Florida's valuable sealife.[4] The pre-amendment controversy essentially boiled down to a hot debate between recreational and commercial fishermen, the tension best explained by the respective mottos: "Save our Sealife" versus "Save Our Jobs."[5] Recreational fishermen emphasized the need to protect disappearing fish resources from the zealous activities of environmentally-careless fishermen trying to earn the biggest buck for the biggest catch. Commercial fishermen presented a very different dilemma—the need to protect citizens struggling to pursue their only means of livelihood against the activities of avid sportslovers just playing for food.[6]

Although recreational fishermen indeed won the battle, the war is far from over. Florida's initiative amendment is sure to spawn the legion of constitutional challenges that other states in Florida's posture are now braving. California, Georgia, New York, South Carolina, Texas and many of the Great Lake States are among a growing class of coastal communities that outlaw the use of entangling nets in their fresh and salt waters.[7] The purpose of this article, therefore, is to

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> (5) "nearshore and inshore Florida waters" means all Florida waters inside a line three miles seaward of the coastline along the Gulf of Mexico and inside a line one mile seaward of the coastline along the Atlantic Ocean.
> (d) This section shall not apply to the use of nets for scientific research or governmental purposes.
> (e) Persons violating this section shall be prosecuted and punished pursuant to the penalties provided in section 370.021(2)(a),(b), (c)6. and 7., and (e), Florida Statutes (1991), unless and until the legislature enacts more stringent penalties for violations hereof. On and after the effective date of this section, law enforcement officers in the state are authorized to enforce the provisions of this section in the same manner and authority as if a violation of this section constituted a violation of Chapter 370, Florida Statutes (1991).
> (f) It is the intent of this section that implementing legislation is not required for enforcing any violations hereof, but nothing in this section prohibits the establishment by law or pursuant to law of more restrictions on the use of nets for the purpose of catching or taking any saltwater finfish, shellfish, or other marine animals.
> (g) If any portion of this section is held invalid for any reason, the remaining portion of this section, to the fullest extent possible, shall be severed from the void portion and given the fullest possible force and application.
> (h) This section shall take effect on the July 1 next occurring after approval hereof by vote of the electors.

FLA. CONST. art. X, § 16 (as amended by ballot Nov. 8, 1994).

4. Editorial, *Signatures for Sealife*, ST. PETE. TIMES, July 6, 1994, at I4A; Bob Epstein, *Coalition Seeks Ban on Gill Net Fishing*, MIAMI HERALD, Oct. 22, 1992, at 1B.

5. *See* Jeff Klinkenberg, *Both Sides of the Net,* ST. PETE. TIMES, Oct. 23, 1994, at F1-3.

6. *Id.*

7. *See* CAL. CONST. art. XB; CAL. FISH AND GAME CODE § 8610.3 (West 1990); GA. CODE ANN. §§ 27-4-7,-114,-133 (Michie 1993); N.Y. ENVTL. CONSERV. LAW §§ 13-0341,-0343 (McKinney

survey the constitutional challenges to those states' fishery regulations so that we may better assess the viability of Florida's newly enacted net ban.[8]

I. THE POWER TO REGULATE FISHERIES

A. *General Powers of the State*

Until reduced to a fortunate fisherman's possession, free-swimming fish within a sovereign's territorial waters remain public property. As Justice Marshall wrote in *Douglas v. Seacoast Products*:[9]

> [I]t is pure fantasy to talk of "owning" wild fish, birds, or animals. Neither the States nor the Federal Government, any more than a hopeful fisherman or hunter, has title to these creatures until they are reduced to possession by skillful capture.[10]

The decision removed much of the confusion surrounding the "ownership" rationale prevalent in earlier cases,[11] which Justice Marshall characterized as "no more than a 19th century legal fiction expressing the 'importance to its people that a State have power to preserve and regulate the exploitation of an important resource.'"[12]

The state, often by constitutional mandate, shoulders the responsibility of preserving its resources for the benefit of all its citizens. Indeed, Florida's very constitution declares it the policy of the state to "conserve and protect its natural resources and scenic beauty."[13] Some of this responsibility is legislatively relegated to the Marine Fisheries Commission and the Game and Fresh Water Fish Commission, both of which possess some rule-making authority with respect to Florida's marine life.[14] Many environmentalists, however, accuse state

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1984); OHIO REV. CODE ANN. §§ 1533.45,.54 (Anderson 1990); S.C. CODE ANN. §§ 50-17-410,-422,-440 (Law. Co-op. 1976); TEX. PARKS AND WILDLIFE CODE ANN. § 66.006 (West 1994).

8. The constitutional amendment is not Florida's first attempt at restricting or prohibiting the use of entangling nets in its coastal waters. Regulations to this effect have been promulgated and enforced in local regions. *See* FLA. STAT. §§ 370.08,.082,.0821 (1993) (outlawing the use of certain nets in designated counties). While none have the amendment's geographical magnitude, they seek an identical goal and any judicial decisions which bear on their constitutional validity will be discussed in this article.

9. 431 U.S. 265 (1977).

10. *Id.* at 284.

11. *See* Manchester v. Massachusetts, 139 U.S. 240, 259-60 (1891) (states have an ownership interest in territorial waters and the fish within those waters); McCready v. Virginia, 94 U.S. 391, 395 (1876) ("There has been no . . . grant of power over the fisheries [to the United States.] These remain under the exclusive control of the State . . . .").

12. *Douglas*, 431 U.S. at 284 (citations omitted).

13. FLA. CONST. art. II, § 7.

14. *See* FLA. STAT. §§ 370.026,.027 (1993) (Marine Fisheries Commission); FLA. STAT. §§ 372.0225,.0651,.07,.072 (1993) (Game and Fresh Water Fish Commission). Their responsibilities

politicians of having largely ignored their responsibilities in this area.[15]

Given the potential for misuse, waste or eradication of a state's fisheries and wildlife, regulation by the state is critical. A state's regulatory power, however, is by no means absolute. Measures chosen by a state legislature when fostering socially, environmentally and economically-desirable goals are still governed by constitutional principles.[16] Not surprisingly, then, courts have entertained a host of constitutional assaults on fishery regulations: takings claims, equal protection challenges and alleged Commerce Clause violations are among the notable few. Such constitutional challenges are sure to follow in the wake of Florida's recent net ban, but net ban proponents need not be too concerned. Individuals bringing fishery legislation under the judicial microscope have been largely unsuccessful when trying to invalidate such legislation on constitutional grounds. Courts consistently uphold fishery regulations, recognizing a state's superseding interest in protecting and preserving its dwindling supply of marine resources.[17]

B. Exercise by the People

What makes Florida's net ban particularly distinct from most regulatory measures is the means by which it was enacted. To effect the statewide ban, the people of Florida took action pursuant to Article XI, section 3, of the state constitution,[18] which reserves to the people the power to propose constitutional amendments by

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and the extent of their powers will not be addressed in this article, as Florida's net ban was promulgated not by legislative and administrative bodies, but through a constitutional amendment initiated and adopted by the people of Florida.

15. *See* FLORIDA CONSERVATION ASSOCIATION, WHY AMEND THE CONSTITUTION TO LIMIT MARINE NET FISHING (1993). To mirror Florida's constitutional commitment to its natural resources, the Florida legislature has statutorily announced "the policy of the state to be management and preservation of its renewable marine fishery resources . . . emphasizing protec tion and enhancement of the marine and estuarine environment in such a manner as to pro vide for optimum sustained benefits and use to all the people of this state for present and future generations." FLA. STAT. § 370.025 (1993).

16. *See generally,* 36A C.J.S. *Fish* § 26, at 535 (1955) ("The power of a state to regulate fisheries in the waters of the state is plenary, and is subject only to such limitations as may be imposed by constitutional provisions . . . .").

17. *See* New York State Trawlers Ass'n v. Jorling, 16 F.3d 1303 (2d Cir. 1994); Louisiana *ex rel.* Guste v. Verity, 853 F.2d 322 (5th Cir. 1988); Burns Harbor Fish Co. v. Ralston, 800 F. Supp. 722 (S.D. Ind. 1992); State v. Raffield, 515 So. 2d 283 (Fla. Dist. Ct. App. 1987), *approved*, 565 So. 2d 704 (Fla. 1990), *cert. denied*, 498 U.S. 1025 (1991); State v. Perkins, 436 So. 2d 150 (Fla. Dist. Ct. App. 1983); Fulford v. Graham, 418 So. 2d 1204 (Fla. Dist. Ct. App. 1982); Anthony v. Veatch, 220 P.2d 493 (Or. 1950); Morgan v. State, 470 S.W.2d 877 (Tex. Crim. App. 1971); Washington Kelpers Ass'n v. State, 502 P.2d 1170 (Wash. 1972), *cert. denied*, 411 U.S. 982 (1973); State v. Moses, 483 P.2d 832 (Wash. 1971), *cert. denied*, 406 U.S. 910 (1972).

18. FLA. CONST. art. XI, § 3.

initiative.[19] The initiative process is one course available to the people to enact, independent of the legislative assembly, measures where the legislature has apparently failed or declined to act.[20] Although legislation by initiative is not the workmanship of the state's appointed legislative body, laws enacted pursuant to the initiative process are accorded equal dignity as those passed by the legislature.[21]

Accordingly, because the legislature is given great judicial deference when passing laws, and those laws carry a presumption of validity, the people, as a coordinate legislative body with co-extensive legislative power, similarly share that deference, and the measures enacted pursuant to its power possess the same presumption.[22]

Of course, constitutional limitations like those imposed on the legislature are equally obligatory on the people.[23] As the United States Supreme Court reminded the citizens of Akron, Ohio, in *Hunter v. Erickson*[24] when they sought to amend a city charter, "[t]he sovereignty of the people is itself subject to those constitutional limitations which have been duly adopted and remain unrepealed."[25] Consonant with this declaration, then, is that Florida's initiative net ban is not insulated from the various constitutional analyses simply because it is a product of direct democratic decisionmaking. Its provisions shall be probed with the same judicial scrutiny that regulations promulgated by legislative and administrative assemblies must endure.[26]

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19. *Id.*

20. *See generally,* 82 C.J.S. *Statutes* §§ 115-116 (1953).

21. *See* Wyoming Abortion Rights League v. Karpan, 881 P.2d 281, 285 (Wyo. 1994) ("Through the initiative, the people are a coordinate legislative body with co-extensive legislative power exercising the same power of sovereignty in passing on measures as that exercised by the legislature in passing laws.") (citing 82 C.J.S. *Statutes* § 118 (1953)).

22. *See* James v. Valtierra, 402 U.S. 137, 141 (1971) ("[P]rovisions for referendums demonstrate devotion to democracy, not to bias, discrimination, or prejudice."); *see also* Anthony v. Veatch, 221 P.2d 575, 576 (Or. 1950) (initiative act prohibiting the taking of certain fish was not shown to fail test of reasonableness and consequently presumption in favor of reasonableness would prevail).

One author commenting on the *Valtierra* case characterized the decision as the first modern case in which the Supreme Court accorded state referendum and initiative schemes broad respect as illustrations of direct democracy. Ronald H. Rosenberg, *Referendum Zoning: Legal Doctrine and Practice,* 53 U. CIN. L. REV. 381, 400 (1984).

23. *See, e.g.,* State *ex rel.* Palagi v. Regan, 126 P.2d 818, 826 (Mont. 1941) (stating that the people under their reserved power are no less subject to the constitution than is the legislative assembly).

24. 393 U.S. 385 (1969).

25. *Id.* at 392.

26. *See supra* notes 20-25.

II. CONSTITUTIONAL CHALLENGES

A. Equal Protection Claims

Scarce commodities such as marine resources are not sufficiently abundant to survive unrestricted taking by all competing users. Consequently, fishery conservation necessarily implies a system of allocation among competing users.[27] Preferably, allocation is accomplished by identifying who or what is responsible for the decline in fisheries (i.e., anglers, commercial fishermen, pollution, or coastal development), but the difficulty in assessing the causes and effects of the decline inevitably compels a no-fault approach toward fishery restoration and management.[28]

The ideal blueprint for any state regulatory scheme is one whose operation affects its citizens indiscriminately and evenhandedly. Nonetheless, the frustrating reality is that it is virtually impossible, irrespective of a legislature's good intentions, to frame fishery regulations in a way that equally affects all individuals.[29] For example, regulations imposing closed seasons on a particular species inevitably spark battles between fishermen of competing seafood industries. Similarly, regulations imposing gear restrictions also have a discriminatory effect, severely hindering those who employ the restricted gear while skirting others, even within the same industry, who use alternative but permissive methods to achieve the same end. Finally, fishery regulations deal an especially hard blow to the commercial fishing industry as a whole, while the recreational fishing industry remains relatively undisturbed.[30] Thus, it becomes obvious that framing fishing legislation is a difficult task. Fishing legislation unavoidably generates imprecise and unfair classifications. Though some classifications are admittedly tolerable, they cannot be so arbitrary or unreasonable as to infringe upon basic constitutional guaranties.[31] Yet, by virtue of their imprecision and disparate

27. Robert B. Ditton, *A Social and Economic Assessment of Major Restrictions on Marine Net Fishing*, May 15, 1994, at 25 (report prepared for the Florida Conservation Association).

28. *Id.*

29. *See* State v. Terrell, 303 S.W.2d 26, 28 (Mo. 1957) ("[N]o fishing regulation could be so framed as to operate equally on all persons.").

30. In Organized Fishermen of Florida v. Florida Marine Fisheries Comm'n (DOAH 86-2716R), 8 FALR 5537 (1986), *rev'd in part,* 503 So. 2d 935 (Fla. Dist. Ct. App. 1987), commercial fishermen argued that the proposed restrictions on redfish would put them out of work such that recreational fishermen could have all the redfish taken from state waters.

31. Harper v. Galloway, 51 So. 226, 228 (Fla. 1910); State v. Terrell, 303 S.W.2d 26, 28 (Mo. 1957).

allocation among competing users, fishery regulations remain a prime target for equal protection claims.

The course that equal protection challenges follow today largely springs from the United States Supreme Court's decision in *Skiriotes v. Florida*,[32] a case involving the forbidden use of diving apparatus for the taking of commercial sponges. The *Skiriotes* court declared that a statute which applies equally to all persons within a state's jurisdiction is not repugnant to the Equal Protection Clause.[33] Decisions following *Skiriotes* similarly reject the notion that gear restrictions are violative of the Equal Protection Clauses of federal and state constitutions.[34] Such restrictions do not amount to unfair classifications or discriminate between persons, but only discriminate as to the appliances a fisherman may lawfully employ.[35] Gear restrictions apply uniformly to all fishermen, irrespective of the industry to which the user belongs; each user may operate the restricted gear (if at all) under exactly the same conditions and limitations as all other competing users. Therefore, since net bans treat alike all users similarly circumstanced—irrespective of their commercial or recreational status—and subject users to the same sanctions, net bans are not violative of equal protection guaranties.[36] Any disparate effect is merely incidental.

Most commercial fishermen hardly view the disparate effects as incidental. Typically, commercial fishermen bear the burden and expense of net restrictions, while their recreational counterparts seemingly elude comparable accountability. For these reasons, many commercial fishermen challenge net bans as a denial of equal protection under the law.

Before addressing the merit of these claims, however, one must first understand the groundwork for equal protection challenges. Challenges grounded on the Fourteenth Amendment[37] of the United States Constitution proceed under the three-tier analysis established by the United States Supreme Court. Where legislation addresses a suspect class (i.e., those based on race, national origin or alienage) or

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32. 313 U.S. 69 (1941).

33. *Id.* at 75.

34. Louisiana *ex rel.* Guste v. Verity, 853 F.2d 322 (5th Cir. 1988); LaBauve v. Louisiana Wildlife & Fisheries Comm'n, 444 F. Supp. 1370 (E.D. La. 1978); State v. Raffield, 515 So. 2d 283 (Fla. Dist. Ct. App. 1987); State v. Perkins, 436 So. 2d 150 (Fla. Dist. Ct. App. 1983); Morgan v. State, 470 S.W.2d 877 (Tex. Crim. App. 1971); Washington Kelpers Ass'n v. Washington, 502 P.2d 1170 (Wash. 1972).

35. *Washington Kelpers Ass'n*, 502 P.2d at 1177 (quoting Barker v. State Fish Comm'n, 152 P. 537, 538 (Wash. 1915)).

36. *See supra* note 34.

37. U.S. CONST. amend. XIV, § 1, cl. 3.

interferes with a fundamental right (i.e., voting or exercising personal choices), strict scrutiny requires a compelling state interest, and the legislation must be narrowly tailored to serve that interest.[38] Classifications based on gender or illegitimacy invoke an intermediate level of review that will uphold legislation if it is fairly and substantially related to an important governmental interest.[39] Finally, if the classification calls for neither strict nor immediate scrutiny, then review proceeds under the "rational basis" test, requiring the legitimate state interest to be rationally related to the legislation's enactment.[40]

The status of fishermen and the rights they assert are not sufficient to warrant strict scrutiny. First, unlike recognized suspect classes, commercial fishermen have not experienced a "history of purposeful unequal treatment,"[41] nor have they been "political[ly] powerless as to command extraordinary protection from the majoritarian political process."[42] In fact, through persistent lobbying, organized fishermen associations have secured a very powerful voice in the political process. Second, the asserted right to earn a livelihood is merely an economic privilege that falls outside the company of fundamental rights which exact judicial scrutiny.[43]

The intermediate standard must similarly be rejected. Classifications emerging from gear restrictions are based not on gender or legitimacy, but rather on a chosen occupation and the means employed to pursue that occupation. Accordingly, all that remains is review under the "rational basis" test, and it is here that courts begin their inquiry.

1. The "Legitimate Interest" Requirement

Does a state have a legitimate objective in regulating its fishery resources, and is the conservation, protection and preservation of its marine life such an objective? The answer is invariably yes. Courts announce time and time again that a state does possess a legitimate

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38. *See, e.g.,* Bullock v. Carter, 405 U.S. 134 (1972) (right to vote is a fundamental right); McLaughlin v. Florida, 379 U.S. 184 (1964) (race is a suspect class).

39. *See, e.g.,* Craig v. Boren, 429 U.S. 190, 197 (1976).

40. *See, e.g.,* Harris v. McRae, 448 U.S. 297, 324 (1980).

41. Massachusetts Bd. of Retirement v. Murgia, 427 U.S. 307, 313 (1976).

42. *Id.*

43. *See* Dandridge v. Williams, 397 U.S. 471 (1970) (the right to pursue employment opportunities is not sufficiently fundamental as to warrant strict scrutiny); Williamson v. Lee Optical, 348 U.S. 483 (1955) (the right to pursue a particular occupation is not fundamental for equal protection purposes); LaBauve v. Louisiana Wildlife & Fisheries Comm'n, 444 F. Supp. 1376 (E.D. La. 1978) (a fisherman's interest in the pursuit of livelihood is economic and is not fundamental within scope of the Equal Protection Clause).

interest in regulating its fisheries, and the protection and preservation of this valuable resource is an appropriate subject for legislative enactment.[44] "We consider the States' interests in conservation and protection of wild animals as legitimate local purposes similar to States' interests in protecting the health and safety of their citizens."[45]

As commercial fishing practices today yield higher landings to meet increased market demands, concerns as to the long term consequences of overfishing provide the catalyst for many fishery management schemes. Although the numbers are disputed, the alarming pace at which netting practices currently operate can have nothing less than an adverse impact on limited fish stocks. For example, in a recent survey conducted in the Tampa Bay region, commercial landings for menhaden increased almost twenty-fold from less than one-half million pounds in 1984 to eight million pounds in 1987.[46] However, menhaden landings declined very rapidly to one-half million pounds by 1989,[47] the sudden decrease likely explained as a result of commercial overharvesting. Similarly, the virtual collapse of the redfish and mackerel fishery in Florida, and the emergency rules which followed, further illustrate the devouring effects of commercial overharvesting.[48] Only after the Marine Fisheries Commission imposed a prohibition on the commercial harvest and sale of redfish and a corresponding one-fish limit on recreational anglers did redfish begin to reappear in Florida waters and recover from their near earlier demise.[49]

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44. *See supra* note 17.

45. Hughes v. Oklahoma, 441 U.S. 322, 337 (1979).

46. FLORIDA CONSERVATION ASSOCIATION, COMMERCIAL LANDINGS OF SPANISH SARDINE, THREADFIN HERRING AND MENHADEN - TAMPA BAY REGION (July 1992). Sources of the report include fishery statistics from the National Marine Fisheries Commission, 1961-1985, and landings data from the Florida Department of Natural Resources, 1985-1991.

47. *Id.*

48. Florida Administrative Code provision 46-22.001 presently designates redfish as a protected species in Florida waters. FLA. ADMIN. CODE ANN. r. 46-22.001(3) (1991). The rules explicitly state that "[t]he purposes of this designation are to increase public awareness of the need for extensive conservation action in order to prevent this resource from becoming endangered and to encourage voluntary conservation practices." *Id.*

Similarly, in an effort to renew and assure the continuing health and abundance of the king mackerel fishery in Florida waters, the Marine Fisheries Commission adopted a number of restrictions, including bag and possession limits, regional season harvest limits, landing limits for commercial harvesters, and season closure for commercial harvesters. FLA. ADMIN. CODE ANN. r. 46-12.001 (1990). The measure was apparently prompted by evidence indicating that the king mackerel was dangerously depleted through excessive harvesting by commercial and recreational harvesters alike. FLA. ADMIN. CODE ANN. r. 46-12.001(1) (1990).

49. *See* Robin Smillie, *Redfish and the Nassau Sound Incident,* Aug. 1, 1994, at 4 (Special Report for the Florida Conservation Association).

An added shortcoming of commercial netting practices is the incidental capture or "by-catch" of unintended fish species and wildlife such as sea turtles and dolphins, which often meet their untimely deaths once entangled in fishermen's nets[50] Despite claims by commercial fishermen that drift nets and gill nets are highly selective gear able to precisely earmark specific species, empirical evidence suggests otherwise.[51] As a rising number of abandoned "ghost" nets wash upon the coastal shores of Florida clutching the dead carcasses of turtles, crabs, sharks and other unintended fishes, the by-catch problem becomes all too real.[52]

When a state announces its interest in guarding against the evils of by-catch and the exploitation of its marine resources, controversy arises as to whether sufficient biological evidence exists to support conservation measures. Opponents of net bans maintain that until comprehensive scientific studies are conducted on entanglement nets and their effect on the underwater ecosystem, legislation cannot be adequately designed to tackle the causes of endangered, threatened or overexploited fisheries. Legislative bodies are often accused of having knee-jerk reactions to warnings by environmentalists that the aquatic community is in drastic peril, despite the lack of sound biological evidence showing reason for alarm. Most recently, several commentators criticized the United Nations General Assembly for terminating large-scale pelagic driftnets in high seas fishing without adequate scientific evidence to support its resolutions[53]

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50. *See* Dennis Cushman, *Controversy About Fishing Nets: Problems Surface After Whale's Death,* L.A. TIMES, Apr. 5, 1985, at B1. Beginning in 1980, the Pacific Region National Coalition for Marine Conservation had already reported 27 incidents over a five-year period of whales being entangled in gill nets off the coast of Southern California alone. Of the 27 whales, 18 died.

51. During an observer trip conducted in April of 1993 by the National Marine Fisheries Service (NMFS), the following list of species were landed and discarded in the course of one commercial netting operation targeting pompano: one bonnethead shark (dead); one nurse shark (released alive); one skate (dead); 250 pounds of ladyfish (discarded dead); 150 pounds of catfish (discarded dead); and three green sea turtles (all released alive). *NMFS Observer Trip 2,* conducted by Tim Brandt, Apr. 13, 1993.

52. The increased incidents of by-catch have prompted federal and state agencies to enact emergency measures aimed at reducing indiscriminate killings. In response to the increased fatalities of entangled green sea turtles, the Florida Marine Fisheries Commission, in 1991, adopted an emergency turtle protection rule which imposed a 600-yard net length limit, as well as a maximum one hour "soak" time requiring netters to begin retrieving their nets after one hour. FLA. ADMIN. CODE ANN. r. 46-4.0081(e) (1993). Similar measures were recently enacted on a federal level when the Commerce Department, through its National Marine Fisheries Commission, required shrimp trawlers in the Gulf and South Atlantic to install and use certified "turtle excluder devices" or "TEDs" in each of their trawl nets. 50 C.F.R. § 227.72(e) (1993).

53. William T. Burke et al., *United Nations Resolutions on Driftnet Fishing: An Unsustainable Precedent for High Seas and Coastal Fisheries Management,* 25 OCEAN DEV. & INT'L LAW 127 (1994).

Collecting sufficient evidence to corroborate conservation efforts, however, is somewhat troublesome. State and federal marine research dollars are minimal and actual research operations require the support and cooperation from commercial net fishermen.[54] Moreover, the accuracy of scientific evidence, particularly with respect to incidents of by-catch, is potentially skewed given the possibility that fishermen will alter their behavior when aware that their activities are being observed and recorded.

Notwithstanding the difficulties in securing reliable evidence, a state should not be required to sit idly by and watch the killing of its fisheries until there reaches a point where the state can unequivocaly be concerned about fishery destruction. A state should be permited to take prophylactic measures even before its natural resources appear threatened with extinction or before the state incurs substantial costs in maintaining or rehabilitating the resource.[55] The Magnuson Act[56] adopts a similar stance. Although standards under the Act require that conservation and management measures be based upon the "best scientific information available,"[57] the fact that scientific information is incomplete does not prevent the creation and implementation of fishery management plans.[58]

A government may not have marine preservation as its ultimate intention in enacting fishery regulations. Other legitimate objectives may also include promoting tourism, enhancing the public welfare,

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The authors noted that the UN General Assembly, in adopting the 1989 and 1991 resolutions, "disregarded the most basic canons of sound fisheries management, the use of best scientific data available and the conscious assessment of alternative means to achieve the conservation objective." *Id.* at 128. Apparently, the only scientific support cited for the UN's gear prohibitions was a single review of one high seas fishery in a particular part of the North Pacific Ocean. *Id.*

54. Robin Smillie, *Gill Nets and Ghost Nets: Indiscriminate Killing*, SEAWATCH: FLORIDA CONSERVATION ASSOCIATION SPECIAL REPORT, Aug. 1, 1994, at 1.

55. *See* Burns Harbor Fish Co. v. Ralston, 800 F. Supp. 722, 732 (S.D. Ind. 1992) (noting that even if the Indiana legislature relied upon erroneous information when enacting its gill net ban, this fact would not transform the legislature's otherwise rational decision into an irra tional one).

56. Pub. L. No. 94-265, 90 Stat. 331 (1976) (codified in 16 U.S.C. §§ 180 1-1882 (1988 & Supp. V 1993)). An in-depth review of the Magnuson Act is discussed *infra* at notes 147-74 and accompanying text.

57. 16 U.S.C. § 1851(a)(2) (1988).

Florida Statutes similarly provide that fishery conservation and management measures "shall be based upon the best information available, including biological, sociological, economic, and other information deemed relevant by the [Marine Fisheries Commission.]" FLA. STAT. § 370.025(2)(b) (1993).

58. 50 C.F.R. § 602.12(b) (1993); *see also* National Fisheries Inst., Inc. v. Mosbacher, 732 F. Supp. 210, 220 (D.D.C. 1990) ("[We] will not construe the Magnuson Act to tie the Secretary's hands and prevent him from conserving a given species of fish whenever its very nature prevents the collection of complete scientific information.").

encouraging public and private recreation, or maximizing the economic benefits that states typically enjoy from both the sports fishing and commercial fishing industries. But must a state's fishery regulation be directed exclusively toward conservation purposes or are these other objectives sufficiently legitimate? A regulatory scheme fostering multiple aims, one of which is conservation oriented, undoubtedly satisfies the rational relationship standard. Yet, is the same true where the legislative intent is solely economic? A state may be guided exclusively by economic policy and enact legislation that regulates its fish stocks in a manner yielding the greatest dollars for the state. Under an economically-driven model, the significance of marine resources is simply reduced to a cash value, and management and allocation of those resources are structured to favor the industry whose activities surrender the highest cash value.

To better understand this model, consider the economic importance of the recreational fishing industry in Florida. Recreational fishing is a tremendously popular sport. Its participants expend in the upwards of hundreds of millions of dollars each year[59] These expenditures alone account for much of Florida's billion dollar tourism industry and provide a wealth of jobs in the retail and service sectors.[60] Inevitably then, in a coastal community heavily dependent upon recreational fishing for income, fishery management and allocation are particularly susceptible to being shaped single-handedly by economic policy.[61] Where a law has as its sole underpinning an economic objective, the concern is that its enforcement inequitably favors one economic group to the detriment of a less resourceful economic group. Such economic favoritism, it is often argued, runs

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59. F.W. Bell et al., *The Economic Impact and Valuation of Saltwater Recreational Fisheries in Florida*, (Florida Sea Grant College Program, Gainesville) 1982.

60. One report estimates that roughly 5.6 million tourists participated in saltwater recreational fishing in Florida during 1991, accounting for about 16.5% of all tourists visiting the state. Coupled with the estimated $1.3 billion spent by sportsfishing aficionados, the recreational fishing activities supported some 23,518 retail and service jobs and accounted for about $235 million in wages for 1991. Additional expenditures in gasoline, sales and corporate income taxes also constituted new money for Florida's economy. Ditton, *supra* note 27, at 16 (citing F.W. Bell, *Current and Projected Tourist Demand for Saltwater Recreational Fisheries in Florida,* (SGR-111, Florida Sea Grant College Program, Gainesville) 1993.

61. As one commentator noted:

> From an economic perspective, the recreational use of nearshore fishery resources is more valuable to the state of Florida than the commercial net fishery of these same resources. This should be sufficient to justify a reallocation of common property resources to the public for recreation and tourism purposes and to commercial fishermen willing to use hook and line gear in keeping with conservation objectives.

Ditton, supra note 27, at 26.

afoul of the constitution.[62] Very few courts agree.[63] Interestingly, Congress has already announced its position on the issue of economic favoritism in the very language of the Magnuson Act. The Act declares that "conservation and management measures shall, where practicable, promote efficiency in the utilization of fishery resources, *except that no such measure shall have economic allocation as its sole purpose.*"[64]

Of course, the economic influences that direct a legislature to enact fishery regulations can similarly persuade a legislature not to enact these regulations. For instance, in an economy such as Alaska where the seafood industry accounts for almost ninety percent of the private sector income,[65] a passive legislature on the issue of marine resource management is more conducive to the economy. Quotas, closed seasons or gear restrictions may reduce the industry's intake and create corresponding setbacks to the state's economy. With total investment by the Alaskan seafood industry recently estimated at four billion dollars,[66] economic policy dictates that the fewer restrictions on the commercial industry the better.

But if economic concerns in this context are to be paramount, environmental concerns necessarily take a backseat. Under an economically-motivated policy, commercial fishermen are encouraged to maximize their intake of a state's fisheries in order to maximize economies to the state. They do so, however, at the expense of an

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62. Most recently, in New York State Trawlers Ass'n v. Jorling, 16 F.3d 1303 (2d Cir. 1994), a group of fishermen attacked a New York conservation law which altogether prohibited trawlers from taking, landing or possessing lobsters in state waters. The Trawlers Association argued that New York was constitutionally restrained from enacting legislation that simply promotes one economic interest or group over another, citing for support Department of Agriculture v. Moreno, 413 U.S. 528 (1973). The Second Circuit disagreed with the fishermen's reliance on *Moreno*, and instead recognized *Moreno* as standing for the proposition that "'a bare [legislative] desire to harm a politically unpopular group cannot constitute a legitimate governmental interest.'" 16 F.3d at 1310 (citations omitted). The record in *Jorling* made no indication that harming the trawler fishermen was the sole legislative purpose behind the amendment. *Id.*

63. *See* Sevin v. Louisiana Wildlife and Fisheries Comm'n, 283 So. 2d 690, 695 (La. 1973) (dissenting opinion) (concluding that a law designed solely to enhance the economic position of one group over another is arbitrary and discriminatory and constitutionally impermissible).

64. 16 U.S.C. § 1851(a)(5) (1988) (emphasis added).

65. Were we to characterize Alaska as a separate nation, it would rank among the world's top ten in total fish harvest. *Implementation of the Fishery Conservation Amendments of 1990: Senate Hearing 102-1034 Before the National Ocean Policy Study of the Committee on Commerce, Science and Transportation,* 102 Cong., 2d Sess. 1034, at 45 (1992) (statement of David Benton, Director of External and International Fisheries Affairs, Alaska Dept. of Fish and Game).

66. *Id.*

environmental policy which urges the protection and conservation of those very same fisheries.[67]

2. Less Intruding Alternatives?

If a statute purportedly seeks to conserve the limited marine resources of a state's waters, then logically, regulations should target those fishermen making the most concentrated catches of fish. Fishermen who do not employ nets may fall within the purported classification (i.e. fishermen who make concentrated catches of fish), but by virtue of using permissible substitute gear, they are excluded from the statute's application. While one might characterize such a statute as being underinclusive, an underinclusive statute is not necessarily invalid simply because it ameliorates one evil but not another.[68] As courts have repeatedly emphasized, the Equal Protection Clause does not require that "all evils of the same genus be eradicated,"[69] nor does it require a legislature to choose between attacking every aspect of a problem or not attacking the problem at all.[70] Although other factors such as pollution, dredging, and oil and gas development damage the aquatic ecosystem, a legislature need not address these evils as well in order to sustain the validity of net restrictions.[71] It is for the legislature, not the judiciary, to decide which means of solving a particular problem is most consistent with

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67. *See* JOSEPH J. KALO ET AL., COASTAL AND OCEAN LAW 360 (1994). The authors theorize that an unregulated open access environment operates as a disincentive for any fisherman to conserve. Absent some assurance that competing fishermen will also act to conserve marine resources, there simply is no incentive for the individual fisherman to conserve the same resources.

The shortcomings of affording unrestricted access to a publicly-owned resource were discussed at length by Garrett Hardin in his renown essay entitled *Tragedy of the Commons,* 162 SCIENCE 1243 (1968). The "commons dilemma" explained by Hardin presented a situation where herdsmen grazed livestock in a common pasture open to the public. To maximize each herdsman's economic gain, one may graze as many cattle as possible. Each herdsman has an incentive to increase herd size but the group will suffer as a whole when the combined actions of all herdsmen exceed resource capacity and result in depletion.

68. *See* Phillips Chemical Co. v. Dumas School Dist., 361 U.S. 376, 385 (1960) ("Even if the classification involved here is to some extent both underinclusive and overinclusive, and hence the line drawn by Congress imperfect, it is nevertheless the rule that in a case like this perfection is by no means required."); *see also,* Williamson v. Lee Optical Co., 348 U.S. 483, 488-89 (1955); Morgan v. State, 470 S.W.2d 877, 880 (Tex. Crim. App. 1971) (concluding that because a statute allows other methods for taking fish does not place it in violation of the Equal Protection Clauses of the federal and state constitution).

69. Railway Express Agency v. New York, 336 U.S. 106, 110 (1948); LaBauve v. Louisiana Wildlife & Fisheries Comm'n, 444 F. Supp. 1376, 1384 (E.D. La. 1978).

70. *See* Dandridge v. Williams, 397 U.S. 471, 486-87 (1970); Williamson v. Lee Optical Co., 348 U.S. 483, 488-89 (1955); Louisiana *ex rel.* Guste v. Verity, 853 F.2d 322, 333 (5th Cir. 1988).

71. *See* Semler v. Oregon State Bd. of Dental Examiners, 294 U.S. 608, 610 (1935) ("[T]he [government is] not bound to deal alike with all . . . classes, or to strike at all evils at the same time or in the same way.").

an overall scheme to conserve and manage valuable fisheries.[72] The judiciary need only inquire into whether the regulation at issue is rationally based and conforms to the mandates of federal and state constitutions.[73] Consequently, the availability of less intruding and more class-inclusive alternatives does not, in itself, render net restrictions constitutionally defective under an equal protection analysis.

B. Deprivation of Property Rights

Restrictions on access to marine resources may also precipitate legal challenges from a property standpoint, the grievance being that such restrictions impermissibly interfere with the right to pursue an occupation and deflate property values in fishing boats, licenses and fish-snaring devices.[74] These "property" rights, the argument goes, are given protection by the Fifth Amendment,[75] prohibiting governmental takings without just compensation, and by the Fourteenth Amendment,[76] providing that no person shall be deprived of life, liberty or property without due process of law. However, the property interests afforded protection by the Takings Clause are not necessarily co-extensive with those protected by the Due Process Clause.[77] Consequently, courts entertain a dual inquiry into whether the asserted right is a protectible property interest—one for takings purposes and a second for purposes of due process.[78]

1. Takings Claims

Netting restrictions have the undeniable effect of unraveling the small bundle of rights that commercial fishermen typically enjoy in their vessels, snaring devices and fishing licenses. Many net prohibitions, however, do not compel fishermen to actually relinquish their property to the state.[79] Fishermen can pursue alternative uses of the

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72. *See, e.g.,* Energy Reserves Group, Inc. v. Kansas Power & Light Co., 459 U.S. 400, 413 (1983) (courts must defer to legislative judgment as to necessity and reasonableness of a particular measure).

73. *Id.*

74. *See* Burns Harbor Fish Co. v. Ralston, 800 F. Supp. 722 (S.D. Ind. 1992).

75. U.S. CONST. amend. V, cl. 5.

76. U.S. CONST. amend. XIV, §1, cl. 3.

77. *Burns Harbor*, 800 F. Supp. at 726; Reed v. Village of Shorewood, 704 F.2d 943, 948 (7th Cir. 1983).

78. *Burns Harbor*, 800 F. Supp. at 726-29.

79. Some state statutes, however, will confiscate nets and other fishing gear where their use is prohibited by law and an individual is employing the device in violation of that law. *See, e.g.,* GA. CODE ANN. § 27-4-7 (Michie 1993) (confiscating all nets violative of statute pro hibiting use of gill nets in state waters).

regulated property provided such uses are not censured by the state. Legal challenges under the Takings Clause typically pivot then not upon any actual confiscation of property but upon the drastic diminution of the property's economic value.

Despite the financial hardships that may emerge from such regulations, economic restraints do not necessarily rise to an unconstitutional taking. In *Andrus v. Allard,*[80] the United States Supreme Court noted that loss of future profits, absent any physical restriction, is a weak foundation upon which to rest a takings claim[81] Moreover, anticipated gains are traditionally viewed as less compelling than other property-related interests.[82] The "bundle of rights" that fishermen possess is by no means impervious to state interference. Personal property, in particular (as opposed to land), has historically been subject to rigorous state control and regulations which strip all economically viable use of that property are not presumably inharmonious with the Takings Clause.[83] As Justice Holmes observed: "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law."[84] The fisherman who purchases property to pursue a commercial livelihood necessarily assumes a risk that uses of his property may be abruptly restricted by a state exercising its legitimate police powers, as well as a risk that regulations enacted pursuant to that exercise may significantly diminish the worth of that property.[85] With society's spiraling concern for the environment, the risk is particularly high where use of the property poses significant environmental hazards.[86]

In line with this "assumption of the risk" approach is that a fisherman securing a license to engage in certain activities in state owned waters does not thereby acquire "property" that is protectible under the Takings Clause. As the Eleventh Circuit illuminated in *Marine One, Inc. v. Manatee County,*[87] "[p]ermits to perform activities on public land—whether the activity be building, grazing, prospecting, mining or traversing—are mere licenses whose revocation cannot rise to the level of a Fifth Amendment taking." Individuals possess no

80. 444 U.S. 51 (1979).

81. *Id.* at 66.

82. *Id.*

83. Lucas v. South Carolina Coastal Council, 112 S.Ct. 2886, 2899 (1992); *see also Andrus*, 444 U.S. at 66-67.

84. Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 413 (1922).

85. *See Andrus*, 444 U.S. at 66-67; Anthony v. Veatch, 220 P.2d 493, 506 (Or. 1950).

86. Burns Harbor Fish Co. v. Ralston, 800 F. Supp. 722, 726 (S.D. Ind. 1992).

87. 898 F.2d 1490, 1492-93 (11th Cir. 1990).

proprietary right in free-swimming fish,[88] nor do they possess an unfettered right to commercially harvest a state's waters for fish. However, a state may decide, pursuant to its inherent right to regulate its public resources, to grant individuals the licensed privilege of capturing fish, subject to such limitations as the state may legitimately exact.[89] Accordingly, any license for which the state has the power to "giveth" is subject to the state's concomitant power to "taketh" or, alternatively, to limit in a manner just short of wholesale prohibition.[90] When a state acts upon these powers, any economic losses the licensee may incur do not amount to a taking which requires just compensation; the losses simply illustrate the expectant costs of doing business in the community.[91]

2. Statutory Compensation

Although the Fifth Amendment does not compel the government to compensate fishermen for their economic losses, some states, politically sensitive to these hardships, have incorporated buyout programs into their fishery regulations. California, for example, has sought to mitigate commercial netters' losses by offering a one-time compensation equal to the average annual ex vessel value of the fish formerly taken by gill and trammel nets.[92] To finance this buyout scheme, anglers are statutorily mandated to affix to their sportsfishing licenses a three dollar marine resources protection stamp.[93] Other states such as New York and Ohio have similar compensation plans.[94] The Florida legislature is presently considering the development of a service program designed to retrain commercial saltwater fishermen and others adversely affected by the passage of the constitutional amendment. Its recent appropriations bill contains proviso language directing the Florida Department of Labor and Employment Security

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88. Douglas v. Seacoast Products, 431 U.S. 265, 284 (1977).

89. *See generally,* 36A C.J.S. *Fish* § 36 (1955).

90. *Burns Harbor*, 800 F. Supp. at 728.

91. *See Andrus*, 444 U.S. at 67; *Burns Harbor*, 800 F. Supp at 729.

92. CALIF. FISH AND GAME CODE § 8610.8 (West 1992).

93. CALIF. FISH AND GAME CODE § 8610.8(c) (West 1992).

94. In New York, gill netters affected by a fishing restriction were compensated through the proceeds of a three dollar special stamp imposed on anglers. Netters were paid one lump sum payment based on the average catch level times the average price over the best two years. Ditton, *supra* note 27, at 24. Similarly, in Ohio, the sale of fishing licenses helped accumulate $2.4 million in unappropriated wildlife funds which were then used to support a buyout program. *Id.*

to use funds under the Economic Dislocated Worker Assistance Act[95] to institute such a plan.[96]

3. *Entitlement to Procedural Due Process*

While a fishing license does not qualify as a "property interest" for purposes of the Fifth Amendment, it nevertheless has sufficient property attributes for purposes of the Due Process Clause of the Fourteenth Amendment.[97] A person must pay for a license to fish. Because that very license entitles him to earn his living, and because he justifiably relies on that license when purchasing the tools for his trade, the license has value such that it merits protection by the Fourteenth Amendment. Licensing schemes, therefore, must be administered fairly. A state cannot arbitrarily and capriciously deny or revoke a fishing license so as to deny an individual due process.[98] At the same time, however, licenses are not guaranteed by the Due Process Clause, and a state can alter the terms of licenses (or eliminate them altogether), if by doing so, it promotes a legitimate interest such as the public's health, safety, and general and economic welfare.[99]

But if we determine that process is in fact due, the question then becomes: *How much* process is due? Some courts espouse the view that where the legislature enacts general laws eliminating statutory rights or otherwise adjusting the benefits and burdens of economic life, absent any substantive constitutional infirmity, the legislative determination affords all the process due.[100] Those same courts note that by accepting a license which conditions the privilege of fishing with the added proviso that the legislature may limit the type of equipment used to catch fish, the licensee impliedly agrees that it is entitled to no more process than that available through the legislative process.[101]

C. *Limitations of the Commerce Clause*

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95. FLA. STAT. § 443.231 (1993).

96. 1994 Fla. Laws ch. 94-357, at 3169-70.

97. Burns Harbor Fish Co. v. Ralston, 800 F. Supp. 722, 730 (S.D. Ind. 1992); LaBauve v. Louisiana Wildlife & Fisheries Comm'n, 444 F. Supp. 1376, 1378-79 (E.D. La. 1978).

98. New York State Trawlers Ass'n v. Jorling, 16 F.3d 1303, 1311 (2d Cir. 1994).

99. *Id.*

100. *See* Atkins v. Parker, 472 U.S. 115, 129-30 (1985) ("The procedural component of the Due Process Clause does not 'impose a constitutional limitation on the power of Congress to make substantive changes in the law of entitlement to public benefits. . . . The legislative determination provides all the process that is due.'") (citations omitted); *see also* Hoffman v. City of Warwick, 909 F.2d 608, 619-620 (1st Cir. 1990); *Burns Harbor*, 800 F. Supp. at 730.

101. *Burns Harbor*, 800 F. Supp. at 731 n.13.

It was Chief Justice John Marshall who first enlightened us on the true might of the Commerce Clause when he spoke over a century ago in *Gibbons v. Ogden*:[102] "Commerce among the States cannot stop at the external boundary of each State, but may be introduced into the interior . . . and the power of Congress, whatever it may be, must be exercised within the territorial jurisdiction of the several States."[103] What *Gibbons v. Ogden* made clear, and what its progeny repeatedly emphasizes, is that Article I, section 8 of the United States Constitution confers upon Congress the exclusive power to regulate commerce among the several states;[104] and by virtue of this power bestowed upon Congress, the states' ability to reach and regulate interstate commerce is limited.[105]

As free-swimming fish migrate their way into the stream of commerce, state fishery regulations dictating how, when and where these fish may be accessed pose important considerations in the context of the Commerce Clause. The Constitution reminds the states, when enacting fishing legislation, to be cognizant of the constraints imposed on them by both the Supremacy and Commerce Clauses. A state cannot enforce local fishery restrictions which conflict with federal laws or which *impermissibly* burden interstate commerce. *Douglas v. Seacoast Products*[106] emphasized that "[t]he business of commercial fishing must be conducted by peripatetic entrepreneurs moving, like their quarry, without regard for state boundary lines."[107] Nevertheless, the limitations imposed by the Commerce Clause are by no means absolute; a state still retains some authority under its general police powers to regulate its fresh and saltwater boundaries in matters of legitimate local concern.[108] Socially, politically, and

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102. 22 U.S. (9 Wheat.) 1 (1824).

103. *Id.* at 194.

104. U.S CONST. art. 1, § 8, cl. 3.

105. *See infra* notes 106-29.

Although the Constitution does not explicitly limit or prohibit state legislation in matters affecting commerce, the judiciary, beginning with *Gibbons*, has identified such limits as flowing by negative implication from the express grant to Congress to regulate commerce. Thus, even where Congress is not exercising its power under the Commerce Clause, the very existence of such power precludes states from legislating in matters restricting the flow of commerce. At the same time, though, the "dormant commerce clause" still leaves substantial room for the states to regulate in areas of legitimate local concern. JOHN E. NOWAK ET AL., CONSTITUTIONAL LAW 266-74 (1983).

106. 431 U.S. 265 (1977).

107. *Id.* at 285.

108. *See* Maine v. Taylor, 477 U.S. 131 (1986) (Maine's ban on importation of live baitfish did not violate Commerce Clause where ban served legitimate state interest in protecting indigenous fish population from parasites in out-of-state baitfish); *see also* Hughes v. Oklahoma, 441 U.S. 322, 337 (1979) ("We consider the States' interests in conservation and protection of

judicially, we recognize that the environmental protection and conservation of our marine resources meets that concern.

How do we decide, then, if and when a state has exceeded its role in regulating matters affecting interstate commerce? Resolution begins with an inquiry into the regulatory statute itself. Fishery statutes that affirmatively discriminate against interstate transactions, either facially or in practical effect, exact high judicial scrutiny, i.e., they must serve a legitimate local purpose that cannot be equally served by other available nondiscriminatory means.[109] Conversely, statutes that only *incidentally* burden interstate transactions violate the Commerce Clause if the burdens they impose are "clearly excessive in relation to the putative local benefits."[110] A sparse number of fishery regulations tumble into the first grouping; those dropping into the second repeatedly surface with passing marks.

1. Discriminatory Statutes

In 1948, the United States Supreme Court confronted a South Carolina statute which required owners of shrimp boats fishing in the state's maritime belt to dock at state ports and unload, pack and stamp their catch before transporting it to a fellow state.[111] In deciding the case of *Toomer v. Witsell*, the Supreme Court suspiciously studied South Carolina's eagerness to stimulate employment and income within its own shrimp industry by diverting business which would have otherwise gone to neighboring states.[112] Costs to foreign fishermen were materially increased by the requirement of having their shrimp unloaded and packed in South Carolina ports rather than at their home bases in Georgia where they maintained their own docking, warehousing and packing facilities.[113] Sensitive to the all too familiar evil of economic protectionism—shielding instate economies from out-of-state competition—the Court struck down the statute as an impermissible burden on interstate commerce.[114]

Another discriminatory state statute arose in the 1979 case of *Hughes v. Oklahoma*,[115] in which the state of Oklahoma forbade the out-of-state transportation of its natural minnows. Oklahoma

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wild animals as legitimate local purposes similar to the States' interests in protecting the health and safety of their citizens.").

109. *See* Hughes v. Oklahoma, 441 U.S. 322 (1979).

110. Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970).

111. Toomer v. Witsell, 334 U.S. 385 (1948).

112. *Id.* at 403-04.

113. *Id.*

114. *Id.* at 406.

115. 441 U.S. 322 (1979).

maintained that the statute served the legitimate local purpose of preserving the ecological balance of its waters that would otherwise be jeopardized by the removal of inordinate numbers of natural minnows for sale in other states.[116] In response, the Supreme Court concluded that while Oklahoma's interest possibly qualified as a legitimate local purpose, the state nonetheless chose to "'conserve' its minnows in the way that most overtly discriminate[d] against interstate commerce."[117] Oklahoma imposed no limits on the numbers of minnows which could be taken by licensed minnow dealers and similarly placed no limits on the means by which minnows could be disposed of within the state. In invalidating the statute, the *Hughes* court underscored the principle that "when a wild animal 'becomes an article of commerce . . . its use cannot be limited to the citizens of one State to the exclusion of citizens of another State.'"[118]

A few years later, the Supreme Court took a surprising turn in *Maine v. Taylor*[119] when it declared as constitutional a Maine statute which prohibited the importation of live baitfish into the state. Oddly enough, the Court characterized the statute as restricting interstate trade "in the most direct manner possible."[120] In exacting the highest scrutiny, the Court held that Maine's ban on the importation of live baitfish served legitimate concerns given the potentially damaging effects that baitfish parasites would have on the state's population of wild fish.[121] Additionally, the Court concluded that Maine's ecology concerns could not be adequately served by any available nondiscriminatory alternatives, particularly since screening procedures for baitfish parasites were largely unreliable.[122]

In a dissenting opinion, Justice Stevens, noting "something fishy about this case," took issue over the finding that alternative non-discriminatory procedures were unavailable.[123] Maine was the only state flatly prohibiting imported baitfish; other states, sharing Maine's interest in the health of their fish and ecology, had developed far less restrictive procedures. Stevens remarked, in closing, that Maine had engaged in obvious discrimination against out-of-state commerce, and accordingly should have been put to its proof.[124]

116. *Id.* at 337.
117. *Id.* at 338.
118. *Id.* at 339.
119. 477 U.S. 131 (1986) (citations omitted).
120. *Id.* at 137.
121. *Id.* at 151-52.
122. *Id.*
123. *Id.* at 152.
124. *Id.*

2. Less-Intrusive Statutes

The preceding cases illustrate the more egregious interferences that fishing legislation can effect on commerce, but most regulatory schemes aimed at preserving marine resources are upheld as incidental burdens on interstate commerce.[125] For example, conservation laws prohibiting trawlers from taking, landing or possessing lobsters,[126] forbidding the taking of food fish with the use of certain fishnets,[127] or banning the importation of undersized shrimp taken outside of territorial waters[128] have all been declared consistent with the Commerce Clause. Courts consistently hold that whatever incidental impacts such regulatory schemes may have on interstate transactions, they fall outside the purpose of, and are insufficient to invalidate, conservation laws.[129] State fishery conservation and management plans (by their very name) steer for the protection of the aquatic ecosystem against the devouring effects of commercial fishing operations. Such plans do not profess to interfere with navigation; fishing vessels may, with considerable impunity, cross in and out of state waters. Nor does economic protectionism rear its ugly head; conservation measures are evenhandedly directed and enforced against all fishermen, residents and nonresidents alike, who overexploit or otherwise destroy a state's precious fisheries.

In conclusion, the trend in affording states considerable latitude under the Commerce Clause reflects the judiciary's awareness of the dangers that may unfold if coastal waters were to go wholly unregulated. Tying the hands of states in this respect would eventually lead to a total depletion of our fishery resources. Commerce would surely feel that effect.

D. Pre-Emption and the Supremacy Clause

In addition to the Commerce Clause, attacks on fishery legislation frequently summon the edicts of the Supremacy Clause as well. Embodied in Article VI, clause 2, the Supremacy Clause states that the laws of the United States (including properly enacted federal

125. The following legislative schemes were all declared as incidental burdens on interstate commerce clearly non-excessive in view of the local putative benefits: New York State Trawlers Ass'n v. Jorling, 16 F.3d 1303 (2d Cir. 1994); State v. Millington, 377 So. 2d 685, 688 (Fla. 1979); State v. Raffield, 515 So. 2d 283 (Fla. Dist. Ct. App. 1987); Fulford v. Graham, 418 So. 2d 1204 (Fla. Dist. Ct. App. 1982); Commonwealth v. Trott, 120 N.E.2d 289 (Mass. 1954); Ampro Fisheries, Inc. v. Yaskin, 606 A.2d 1099 (N.J.), *cert. denied,* 113 S. Ct. 409 (1992).

126. New York State Trawlers Ass'n v. Jorling, 16 F.3d 1303 (2d Cir. 1994).

127. State v. Raffield, 515 So. 2d 283 (Fla. Dist Ct. App. 1987).

128. State v. Millington, 377 So. 2d 685, 688 (Fla. 1979).

129. *See supra* notes 125-28.

regulations) are the supreme law of the land,[130] and accordingly take precedence over state laws. The Supremacy Clause is potentially a virile source for invalidating state restraints on fishing activities—particularly with the enactment of the Fishery Conservation and Management Act of 1976,[131] which as a federal decree, preempts state fishery schemes. To understand preemption challenges as they relate to fishery legislation, one should first explore the constitutional framework from which they emerge.

Pre-emption of state law by federal law can occur in several ways: when Congress expressly defines the extent to which it intends to preempt state law;[132] when it evidences an intent to occupy an entire field of regulation;[133] or when state and federal laws are in actual conflict.[134] Actual conflict arises when it is impossible to comply with both federal and state law or similarly when state law impedes the accomplishment of congressional purposes.[135] Despite these guidelines, the issue of federal preemption in and outside of state territorial waters continues to generate considerable confusion.

1. Historical Background

a. Pre-MFMCA Era

Prior to the enactment of the Magnuson Fishery Conservation and Management Act (MFCMA or "Magnuson Act"),[136] the federal government remained largely indifferent to coastal fisheries, instead diverting most of its limited attention to fishing activities in foreign waters.[137] The scarcity of federal fishery regulations thereby enabled states to levy extensive control over domestic fishing operations, even

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130. U.S. CONST. art. VI, cl. 2.

131. Pub. L. No. 94-265, 90 Stat. 331 (1976) (codified in 16 U.S.C. §§ 1801-1882 (1988 & Supp. V 1993)). The official title of the Act was subsequently changed in 1980 to the Magnuson Fishery Conservation and Management Act.

132. *See, e.g.,* Jones v. Rath Packing Co., 430 U.S. 519, 525 (1977).

133. *See, e.g.,* Hillsborough County v. Automated Medical Lab., Inc., 471 U.S. 707, 713 (1985).

134. *See, e.g.,* Florida Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142-43 (1963).

135. Schneidewind v. ANR Pipeline Co., 485 U.S. 293, 298 (1988); Bateman v. Gardner, 716 F. Supp. 595, 598 (S.D. Fla. 1989), *aff'd without opinion*, 922 F.2d 847 (11th Cir. 1990), *cert. denied*, 500 U.S. 932 (1991).

136. *See supra* note 132.

137. Eldon V.C. Greenberg & Michael E. Shapiro, *Federalism in the Fishery Conservation Zone: A New Role for the States in an Era of Federal Regulatory Reform,* 55 S. CAL. L. REV. 641, 642 (1982). For an in-depth discussion of the parameters of the states' authority over coastal fisheries prior to the MFCMA, *see* John Winn, Comment, Alaska v. F/V Baranof: *State Regulation Beyond the Territorial Sea After the Magnuson Act,* 13 B.C. ENVTL. AFF. L. REV. 281 (1986).

outside state territorial waters.[138] Provided a state had a legitimate interest in monitoring extraterritorial fisheries and providing that it demonstrated a sufficient basis for exercising jurisdiction over individual fishermen,[139] a state could regulate the conduct of its fishermen on the high seas. The state's power was constrained only by such constitutional limitations as those found in the Commerce, Supremacy and Equal Protection Clauses.[140]

The case of *Skiriotes v. Florida*[141] best illustrates the parameters of the States' regulatory power during this era. The statute at issue in *Skiriotes* forbade the use of diving suits, helmets and other equipment when harvesting commercial sponges from waters in and outside the territorial limits of Florida.[142] The defendant convicted under the statute challenged its validity, contending that the state had exceeded its power by imposing its jurisdiction in extra-territorial waters[143] In response, the Supreme Court found no reason why a state could not govern the conduct of its citizens upon the high seas with respect to matters in which it held a legitimate interest and where the action did not conflict with federal legislation.[144] Because Florida demonstrated a legitimate interest in the proper maintenance of its sponge fishery, and no corresponding federal statute existed, the statute was upheld.[145]

Although descendants of *Skiriotes* later broadened the jurisdictional basis to include any fisherman having sufficient minimum contacts with the state,[146] the *Skiriotes* decision set an important precedent for state fishery legislation. *Skiriotes* provided the avenue for many states to regulate fishing activities—both in and outside state boundaries—that adversely affected the integrity of their marine ecosystems. That avenue narrowed, however, with the arrival of the Magnuson Act.

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138. Greenberg & Shapiro, *supra* note 137, at 642.

139. Initially, personal jurisdiction over individuals operating beyond the territorial sea was accomplished either through state citizenship or landing laws. *See* Greenberg & Shapiro, *supra* note 137. The case of State v. Bundrant, 546 P.2d 530 (Alaska), *appeal dismissed sub nom.,* Uri v. Alaska, 429 U.S. 806 (1976), provided a third basis for jurisdiction by extending authority over any individual having sufficient minimum contacts with the state. Greenberg & Shapiro, *supra* note 137, at 651-52.

140. Greenberg & Shapiro, *supra* note 137, at 649-56; *see also,* Winn, *supra* note 137, at 285.

141. 313 U.S. 69 (1941).

142. *Id.* at 70.

143. *Id.* at 75.

144. *Id.* at 77.

145. *Id.* at 78-79.

146. *See* State v. Bundrant, 546 P.2d 530 (Alaska), *appeal dismissed sub nom.,* Uri v. Alaska, 429 U.S. 806 (1976); *see also* Winn, *supra* note 137, at 291.

b. Post-MFMCA Era

The passage of the Magnuson Act[147] in 1976 signified a landmark victory for the nation's fisheries. Under the MFMCA, Congress established a regulatory scheme to promote the complementary goals of management and conservation of U.S. fishery resources. The Act vests the federal government with exclusive fishery management authority over all fish within the exclusive economic zone (EEZ),[148] an area extending from the seaward boundary of each of the coastal states to 200 miles offshore.[149] To accomplish its outlined tasks, the Magnuson Act sets up a network of eight regional management councils[150] assigned to adopt and administer Fishery Management Plans (FMPs) within the EEZ. Each Council is comprised of the principal state official holding the responsibility and expertise of marine fishery management for the constituent state; the regional director of the National Marine Fisheries Service (NMFS) for the concerned geographic area; and individuals appointed by the Secretary from the lists of qualified persons submitted by governors of the respective states.[151] Any FMPs prepared by the individual councils and any regulations promulgated to implement such plans must conform to the seven national standards set forth by Congress in the Act.[152] FMPs which successfully meet these requirements are then

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147. 16 U.S.C. § 1801 et seq. (1988 & Supp. V 1993).

148. 16 U.S.C. § 1811(a) (1988).

149. 16 U.S.C. § 1802(6) (1988).

150. 16 U.S.C. § 1852(a)(1)-(8) (1988 & Supp. V 1993). The ei ght councils are divided as follows: (1) New England Council (Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut); (2) Mid-Atlantic Council (New York, New Jersey, Delaware, Pennsylvania, Maryland, and Virginia); (3) South Atlantic Council (North Carolina, South Carolina, Georgia and Florida); (4) Caribbean Council (Virgin Islands and Puerto Rico); (5) Gulf Council (Texas, Louisiana, Mississippi, Alabama and Florida); (6) Pacific Council (California, Oregon, Washington and Idaho); (7) North Pacific Council (Alaska, Washington and Oregon); and (8) Western Pacific Council (Hawaii, American Samoa, Guam and the Northern Mariana Islands).

151. 16 U.S.C. § 1852(b)(1),(2) (1988 & Supp. V 1993).

152. 16 U.S.C. § 1851(a)(1)-(7) (1988). Section 1851(a) identifies the national standards as follows:

> (1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.
>
> (2) Conservation and management measures shall be based upon the best scientific information available.
>
> (3) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.
>
> (4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conser-

submitted to the Secretary of Commerce for ultimate approval and implementation.[153]

2. Preemptive Effects in Federal Waters

The exhaustive scope of federal fishery management plans and the preemptive status they enjoy leave fishermen, state regulators and courts alike to ponder and test the true force of the Magnuson Act[154] At first blush, the Act seems to leave little room for state participation in federal offshore fisheries; its provisions state that the United States shall have *exclusive fishery management authority* over all fish and all Continental Shelf fishery resources within the exclusive economic zone.[155] The MFMCA further confines the states' extra-territorial jurisdiction by prohibiting any state from directly or indirectly regulating any fishing vessel outside its boundaries, unless the vessel is registered under the laws of that State.[156] These jurisdictional constraints mark a significant departure from prior law which merely required a state to demonstrate a legitimate exercise of its extra-territorial jurisdiction; the MFMCA effectively abandoned the citizenship or "minimum contacts" tests employed earlier and replaced them with the singular jurisdictional requirement of vessel registration.[157]

By effectively crippling the states' regulatory powers over the ocean's fisheries, the MFCMA has serious preemptive implications for any state fishery scheme invading federal waters. In cases decided since the passage of the Act, state restrictions on access to fisheries

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> vation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.
> (5) Conservation and management measures shall, where practicable, promote efficiently in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.
> (6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.
> (7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

Id.

153. 16 U.S.C. §§ 1852(h), 1854 (1988 & Supp. V 1993).

154. *See* Davrod Corp. v. Coates, 971 F.2d 778 (1st Cir. 1992); Vietnamese Fishermen Ass'n of America v. California Dept. of Fish & Game, 816 F. Supp. 1468 (N.D. Cal. 1993); South eastern Fisheries Ass'n v. Martinez, 772 F. Supp. 1263 (S.D. Fla. 1991); Bateman v. Gardner, 716 F. Supp. 595 (S.D. Fla. 1989); People v. Weeren, 607 P.2d 1279 (Cal.), *cert. denied*, 449 U.S. 839 (1980); Livings v. Davis, 465 So. 2d 507 (Fla. 1985); Southeastern Fisheries Ass'n v. Department of Natural Resources, 435 So. 2d 1351 (Fla. 1984); State v. Raffield, 515 So. 2d 283 (Fla. Dist. Ct. App. 1987).

155. 16 U.S.C. § 1811(a) (1988).

156. 16 U.S.C. § 1856(a)(3) (1988).

157. *See supra* notes 139-146 and accompanying text.

outside territorial limits typically surrender to the mandates of the Supremacy Clause.[158] For instance, in *Vietnamese Fishermen v. California Department of Fish & Game,*[159] the people of California sought to enforce a state ban (incidentally adopted by initiative) of gill and trammel nets in federal waters. As the governing federal body over offshore California waters, the Pacific Fishery Management Council previously addressed the issue of net restrictions by prohibiting such gear in all areas north of thirty-eight degrees north latitude.[160] The FMP was silent, however, as to netting activities occurring south of the geographical mark. Ban proponents sought an interpretation of the statute which would accord the state discretion to decide whether to allow gill nets south of thirty-eight degrees north latitude. The California court declined to adopt such an interpretation, instead noting that the federal law permitted gill nets in the disputed area while the state law prohibited them.[161] Concluding that the conflict between the two schemes justified preemption, the court enjoined the state from enforcing the ban in federal waters.[162] Tacit, then, in the *Vietnamese Fishermen* decision, and consonant with companion cases, is the principle that where a state fishery scheme is deemed irreconcilable or incompatible with a corresponding federal scheme, the state scheme must necessarily yield the right of way.[163]

Despite the congressional decision to assert exclusive federal jurisdiction over the fisheries in the EEZ, courts are split on whether the Magnuson Act allows state regulation in extraterritorial seas.[164]

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158. *See* Vietnamese Fishermen Ass'n of America v. California Dept. of Fish & Game, 816 F. Supp. 1468 (N.D. Cal. 1993) (state constitutional amendment which conflicted with federal regulations was preempted by the Magnuson Act); Southeastern Fisheries Ass'n v. Martinez, 772 F. Supp. 1263 (S.D. Fla. 1991) (Florida landing law which restricted catches of Spanish mackerel by Florida fishermen in EEZ conflicted with, and was preempted, by MFMCA); Bateman v. Gardner, 716 F. Supp. 595 (S.D. Fla. 1989) (Florida statute which prohibited shrimping where federal regulations allowed it was preempted by Magnuson Act); State v. Sterling, 448 A.2d 785 (R.I. 1982) (MFMCA preempted state restrictions on commercial fishing for flounder where corresponding federal regulations were already established).

159. 816 F. Supp. 1468 (N.D. Cal. 1993).

160. *Id.* at 1471.

161. *Id.* at 1475.

162. *Id.* at 1475-76.

163. *See supra* notes 158-62.

164. *See, e.g.,* Davrod Corp. v. Coates, 971 F.2d 778, 786 (1st Cir. 1992) (Magnuson Act does not preempt state's regulatory authority of its offshore waters); Raffield v. State, 515 So. 2d 283, 284 (Fla. Dist Ct. App. 1987) (observing that the MFMCA did not altogether preempt right of state to regulate commercial fishing outside its territorial limits) (citing Livings v. Davis, 465 So. 2d 507 (Fla. 1985)); *cf.* Southeastern Fisheries Assoc. v. Chiles, 979 F.2d 1504, 1509 (11th Cir. 1992) (concluding that Congress in enacting the MFMCA "left nothing pertaining to the EEZ for the states to regulate.").

One need only peruse the language of section 1856(a),[165] which explicitly allows regulation of state registered vessels outside state boundaries, to recognize that states possess concurrent authority, albeit minimal, over fishing operations conducted in adjacent federal waters. To read the statute otherwise offends the very *raison d'etre* of the Act. For instance, were the federal government to overlook or ignore a particular fishery in the EEZ, and one strictly read the Act as prohibiting states from regulating within the zone, the ignored fishery would become increasingly prone to exploitation, or worse, total depletion—an outcome which the Act is specifically designed to prevent.[166] Accordingly, as illustrated by a handful of post-MFMCA opinions, a state may manage and control the fishing in extraterritorial waters when the regulation does not conflict with federal law,[167] where there exists a legitimate state interest served by the regulation, and the vessel is duly registered pursuant to the state's registration scheme.[168]

3. Preemptive Effects in State Waters

Respecting the Magnuson Act's preemptory status in federal waters presents an often impenetrable barrier for many states in the field of fishery management. States, however, should not and can not disregard the potential reach of the MFMCA within their own, presumably sheltered, territorial waters. While the Magnuson Act declares that "nothing in [its] chapter shall be construed as extending or *diminishing* the jurisdiction or authority of any State *within its boundaries,*"[169] it provides for one exception embodied in section 306(b).[170] Section 306(b) states:

> If the Secretary finds, after notice and an opportunity for a hearing . . . , that—

165. 16 U.S.C. § 1856(a) (1988).

166. This example is to be distinguished from the situation in which the federal government makes a conscious decision that no federal regulation in a particular fishery or area is needed. Accordingly, should one of the respective Councils affirmatively decide that federal regulations are inappropriate, the states are not permitted to exercise their police power to enact regulations in that area. *See* Ray v. Atlantic Richfield Co., 435 U.S. 151, 178 (1978).

167. A state regulation is in conflict with applicable federal fis hery regulation where any of the following conditions is realized: (1) No federal regulation exists for the subject fishery but there is an affirmative decision by the federal government that any regulation in such fishery would be inappropriate; or (2) compliance with both federal and state fishery schemes is impossible; or (3) enforcement of the state regulation interferes with the fulfillment of the objectives of the applicable federal regulation. Greenberg & Shapiro, *supra* note 137, at 682-83.

168. *See* Alaska v. F/V Baranof, 677 P.2d 1245 (Alaska 1984); People v. Weeren, 607 P.2d 1279, 1286 (Cal. 1980); *see also* Greenberg & Shapiro, *supra* note 137, at 680-83.

169. 16 U.S.C. § 1856(a) (1988) (emphasis added).

170. Magnuson Act § 306(b), 16 U.S.C. § 1856(b) (1988).

> (A) the fishing in a fishery, which is covered by a fishery management plan implemented under this chapter, is engaged in predominately within the [EEZ] and beyond such zone; and
> (B) any state has taken any action, or omitted to take any action, the results of which will substantially and adversely affect the carrying out of such [FMP];
>
> the Secretary shall promptly notify such State and the appropriate Council of such finding and of his intention to regulate the applicable fishery *within the boundaries of such State* (other than its internal waters), pursuant to such [FMP] and the regulations promulgated to implement such plan.[171]

Thus, even locally imposed fishing restrictions extending no further than the outer fringe of a state boundary face possible preemption by the Act.

To date, no case has tested the true preemptory force of the 306(b) provision, but it seemingly opens another gateway to invalidate state fishery schemes such as Florida's net ban.[172] Although Florida's amendment restricts the ban's application to Florida coastal waters extending outward to the three mile mark,[173] conceivably it could be undercut by 306(b) if its effects are inimical to the implementation of an existing or subsequently enacted federal fishery management plan.[174]

III. CONCLUSION

Promoters of Florida's net ban have already conquered a number of obstacles to convince Florida's electorate to adopt the constitutional amendment, and they will likely brave a number more as fishermen and other ban opponents take their challenges to the courts.

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171 *Id.* (emphasis added).

172 One source indicates that one use of section 306(b) occurred in Oregon in 1982 when the Secretary of Commerce preempted an Oregon salmon fishing regulation and directed the National Oceanic and Atmospheric Administration to adopt regulations for the concerned area. KALO ET AL., *supra* note 67, at 391 (citing *Secretary of Commerce Preempts Oregon Salmon Regulations,* 2 TERRITORIAL SEA NO. 2 at 6 (Dec. 1982)). The Secretary's action was pursuant to a finding that a salmon fishery management plan was in place for the waters off Oregon, that salmon fishing occurred primarily within the EEZ and that Oregon's action would substantially and adversely affect the implementation of the FMP. 2 TERRITORIAL SEA NO. 2 at 9.

173. *See* supra note 3.

174. *See* 50 C.F.R. § 619.3 (1992) (addressing preemption of state authority under section 306(b)). Under the code, any effects of state action which are important, material or considerable in degree are deemed to "substantially affect" the carrying out of an FMP. Such effects include: (1) the achievement of the FMP's goals or objectives for the fishery; (2) the achievement of optimum yield from the fishery on a continuing basis; and (3) the attainment of the national standards for fishery conservation and management (as set forth in section 301(a)) and compliance with other applicable law; or (4) the enforcement of regulations implementing the FMP.

Preemptory challenges under the Magnuson Act and Supremacy Clause may ultimately prove to be a successful route. Much of the framework, however, has been erected by other tribunals which have largely respected reasonable state measures aimed at managing and preserving the coastal fisheries. Only constitutional boundaries will prevent states from abusing or misusing their regulatory powers in this field.

As fishery management is best accomplished through harmonic efforts of state and federal authorities, regulatory programs at both levels should concentrate on providing controlled but viable access to marine resources. By affording the commercial fisherman the economic opportunity to live off the sea, the recreational angler the pleasure of the sport, and the diver the unspoiled view of underwater ecosystems, states can effectuate economic and social objectives, and at the same time, foster the conservation of their valuable fisheries.

THE WOLF IN NORTH AMERICA: DEFINING INTERNATIONAL ECOSYSTEMS VS.DEFINING INTERNATIONAL BOUNDARIES

KEVIN J. MADONNA*

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> [W]ildlife as a whole and more especially migratory species of fauna, are the common heritage of humanity and . . . wherever they live they should throughout their lives be managed in the common interest and by the common consent of all peoples.[1]

I. INTRODUCTION

Prior to European settlement, an estimated 2,000,000 wolves[2] lived on the North American continent.[3] Approximately 500 years later, the

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1. Representative of Lesotho, speaking on behalf of the African States at the final conference held to conclude the Bonn Convention in 1979. SIMON LYSTER, INTERNATIONAL WILDLIFE LAW 181 (1985).

2. Two species of wolf, the gray wolf (Canis lupus) and the red wolf (Canis rufus), populated North America prior to European settlement. This article is concerned with the gray wolf and focuses on its population in the Northern United States and Canada. See *infra* note 21 for a brief discussion of the Mexican wolf, a subspecies of Canis lupus. Both the gray wolf and the red wolf are descendants of the credonts, a primitive group of meat eaters, which populated the northern hemisphere approximately 100 to 120 million years ago. L. DAVID MECH, THE WOLF: THE ECOLOGY AND BEHAVIOR OF AN ENDANGERED SPECIES 18 (1970), *citing* W. D. Matthew (1930). Other species which can be traced to the credonts include bears, dogs, foxes, raccoons, weasels, civets, hyenas and cats. *Id.* at 21. Presently, 24 distinct subspecies of the wolf have been recognized in North America. *Id.* at 30, 350-52. However, a recent study suggests that five or fewer subspecies of gray wolf inhabit North America. *See* U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Proposed Establishment of a Nonessential Experimental Population of the Gray Wolf in Central Idaho Area, 59 Fed. Reg. 42,118 (1994) (to be codified at 50 C.F.R. § 17).

The gray wolf is a native of most of North America, excluding the southeastern portion of the United States. *Id.* Gray wolf populations were "extirpated" from the western United States around 1930. *Id.* The gray wolf is currently listed as an endangered species in the lower 48 United States, excluding Minnesota. 50 C.F.R. § 17.11 (1993).

The Endangered Species Act (ESA) has defined an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this chapter would present an overwhelming and overriding risk to man." 16 U.S.C. § 1532(6) (1988). Once a species to determined to be endangered by the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), the endangered species is listed in 50 C.F.R. § 17.11 (1993).

The red wolf, whose populations were concentrated mainly in the southeastern United States, was exterminated by 1975. U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee, 56 Fed. Reg. 56,325, 56,326-27 (1991) (to be codified at 50 C.F.R. § 17). One year earlier, in 1974, the red wolf was listed as an endangered species under the ESA. 50 C.F.R. § 17.11 (1991); *see* Endangered Species Act of 1973, 16 U.S.C. § 1531 (1988). A captive breeding program was begun in 1974 resulting in the release of red wolves into the wilds of North Carolina's Alligator River National Wildlife Refuge and Tennessee's Great Smoky Mountain. 56 Fed. Reg. 56,325, 56,327 (1991); *The Wolf in the United States: Reintroduction* [hereinafter *Reintroduction*], INTERNATIONAL WOLF, Fall 1994, at 8 (Special Educational Supplement 111). The reintroduction appears to have been successful, as the red wolves who were reintroduced are not only surviving, but reproducing. *Id.*

In June 1991, geneticists Robert K. Wayne and Susan M. Jenks employed mitochondrial DNA (mtDNA) analysis to present and historical specimens of red wolf. U.S. Fish and Wildlife

wolf population in the United States' lower forty-eight states numbers between 500 and 1,600, with 1,500 to 1,750 located in Minnesota.[4] The wolf population in Alaska is between 5,000 and 15,000[5] and the number of wolves in Canada ranges between 52,000 and 60,000.[6] There are numerous reasons why the North American wolf population was virtually eliminated. European folklore, the threat to the early settler's livestock, and the competition the wolf gave to early hunters are some of the most frequently cited reasons.[7] The combination of these and other factors culminated in the virtual extermination of the wolf population in the United States' lower forty-eight states; with them went an essential part of an ecosystem that had been established for millions of years.

The disappearance of species such as the wolf has led to international concern and cries for protection. Environmental protection and wildlife preservation is now a recognized and significant aspect of

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Service, Endangered and Threatened Wildlife and Plants; Finding on a Petition to Delist the Red Wolf (Canis rufus), 57 Fed. Reg. 1246, 1248 (1992) (to be codified at 50 C.F.R. § 17). The study reported that the red wolf had no identifiably unique mtDNA specimens. *Id.* The results of the study "show only coyote mtDNA in existing red wolves and coyote and gray wolf mtDNA in historical specimens." *Id.* One hypothesis that can be drawn from the study is that the red wolf is a hybrid, resulting from coyote/gray wolf interbreeding. *Id.* This presented a problem to the Department of the Interior (DOI) because it was DOI semi-official policy to deny listing to hybrid species. Memorandum from Acting Assistant Solicitor, U.S. Fish and Wildlife Service, U.S. Department of Interior, to Deputy Associate Director, Federal Assistance, U.S. Fish and Wildlife Service (Aug. 2, 1977) (on file with the U.S. Department of the Interior). DOI had been aware of the Wayne and Jenks study, and anticipating its results, retracted the semi-official hybrid policy in 1990. Memorandum from Assistant Solicitor, U.S. Fish and Wildlife Service, to Director, U.S. Fish and Wildlife Service (Dec. 14, 1990) (on file with the U.S. Department of Interior). On September 4, 1991, the American Sheep Industry Association petitioned the FWS to delist Canis rufus on the grounds that it is a hybrid. 57 Fed. Reg. 1246 (1992) (to be codified at 50 C.F.R. § 17). The petition was denied. *Id.* DOI is currently examining its hybrid policy at reauthorization hearings. Telephone interview with V. Gary Henry, U.S. Fish and Wildlife Service Red Wolf Coordinator (Oct. 27, 1994).

3. THOMAS B. ALLEN, VANISHING WILDLIFE OF NORTH AMERICA 111 (1974).

4. Todd K. Fuller et al., *A History and a Current Estimate of Wolf Distribution and Numbers in Minnesota*, 20 WILDLIFE SOC'Y BULL. 42 (1992).

5. *Alaska Wolf Kill Continues,* THE SPIRIT, Jan.-Mar. 1994, at 1. The Alaska Department of Fish and Game estimated its Fall/Winter 1989 statewide wolf population to be between 5,917 and 7,230. Memorandum from David G. Kelleyhouse, Director, Division of Wildlife Conservation, to Regional Wildlife Conservation Supervisors (August 30, 1993). These estimates are based on surveys, sealing records, trapper questionnaires, and incidental observations and are "far from ideal." *Alaska Wolf Kill Continues*, *supra* at 1.

6. R. D. Hayes & J. R. Gunson, *Status and Management of Wolves in Canada, in* ECOLOGY AND CONSERVATION OF WOLVES IN A CHANGING WORLD (forthcoming 1995).

7. It is important to note that it was the United States government that was responsible for the majority of the wolf slaughter. For a discussion on the reasons for the wolf's disappearance and the governmental involvement *see* BARRY H. LOPEZ, OF WOLVES AND MEN 137-277 (1978); David Todd, *Wolves—Predator Control and Endangered Species Protection: Thoughts on Politics and Law*, 33 S. TEX. L.J. 459 (1992).

international law.[8] The principle that wildlife conservation is an international concern, as opposed to solely an intranational concern, gained international recognition at the United Nations Conference on the Human Environment in Stockholm in 1972.[9]

As has been demonstrated by past experience,[10] scholarly research[11] and recent developments,[12] "wildlife protection treaties and

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8. *See* discussion *infra* parts III, IV, for a discussion on international agreements that purport to protect wildlife. *See also* ALEXANDRE KISS & DINAH SHELTON, INTERNATIONAL ENVIRONMENTAL LAW xiii-xxix (1991) (listing chronologically 255 agreements, conventions, treaties, protocols, statutes, directives, recommendations and resolutions entered into between 1902 and 1989 that purport to protect the environment).

9. Stockholm Declaration on the Human Environment, adopted by the United Nations Conference on the Human Environment at Stockholm, June 16, 1972, Section I of Report of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF.48/14 & Corr.1 (1972), *reprinted in* 11 I.L.M. 1416 (1972); LYSTER, *supra* note 1, at 181.

10. *See* DANIEL J. ROHLF, THE ENDANGERED SPECIES ACT: A GUIDE TO ITS PROTECTIONS AND IMPLEMENTATIONS (1989); *Six Reasons Why the Endangered Species Act Doesn't Work and What To Do About It, in* 5 CONSERVATION BIOLOGY 273-82 (1991); MICHAEL J. BEAN ET AL., RECONCILING CONFLICTS UNDER THE ENDANGERED SPECIES ACT: THE HABITAT CONSERVATION PLANNING EXPERIENCE (1991); Christopher A. Cole, Note, *Species Conservation in the United States: The Ultimate Failure of the Endangered Species Act and Other Land Use Laws*, 72 B.U. L. Rev. 343 (1992); Nancy Kubasek et al., *The Endangered Species Act: Time For a New Approach?*, 24 Envtl. L. 329 (1994); Stuart L. Somach, *Essay: What Outrages Me About the Endangered Species Act*, 24 Envtl. L. 801 (1994); John C. Kunich, *Species and Habitat Conservation: The Fallacy of Deathbed Conservation Under the Endangered Species Act*, 24 Envtl. L. 329 (1994). *See also* Barry Walden Walsh, *The Ecosystem Thinking of Mollie Hanna Beattie; U.S. Fish and Wildlife Service Director*, AMERICAN FORESTS, May 1994, at 13, 15 (quoting Mollie H. Beattie, U.S. Fish and Wildlife Service Director: "I don't think that managing for the maximum possible number of any one species is in the long run of advantage to that species—for instance, waterfowl. If you manage for the maximum possible, you'll end up with too many birds congregating in one place, and inevitably disease.").

11. *See* Scott D. Slocombe, *Implementing Ecosystem-Based Management: Development of Theory, Practice and Research for Planning and Managing a Region*, 43 BIOSCIENCE 612 (1993); Anne Batchelor, *The Preservation of Wildlife Habitat in Ecosystems: Towards a New Direction Under International Law to Prevent Species Extinction*, 3 FLA. J. INT'L L. 307 (1988); MICHAEL A. TOMAN, ECOSYSTEM VALUATION: AN OVERVIEW OF ISSUES AND UNCERTAINTIES, (Resources For The Future Discussion Paper, 94-43, Sept. 1994); MICHAEL A. TOMAN & MARK S. ASHTON, SUSTAINABLE FOREST ECOSYSTEMS AND MANAGEMENT: A REVIEW ARTICLE, (Resources For The Future Discussion Paper, 94-42, Sept. 1994); Julie B. Bloch, *Preserving Biological Diversity in the United States: The Case for Moving to an Ecosystems Approach to Protect the Nation's Biological Wealth*, 10 PACE ENVTL. L. REV. 175 (1992); Sudhir K. Chopra, *Whales: Toward a Developing Right of Survival as Part of an Ecosystem*, 17 DENV. J. INT'L L. & POL'Y 255 (1989).

12. *Ecosystem Management: Additional Actions Needed to Adequately Test a Promising Approach*, GAO/RCED-94-111 (Aug. 1994) [hereinafter *GAO Report*] (report to Congressional Requestors addressing "(1) the status of federal initiatives to implement ecosystem manage ment, (2) additional actions required to implement this approach, and (3) barriers to govern ment wide implementation."); All four federal land management agencies have announced that they are or will use ecosystem approaches in managing their respective resources. *Id.* at 28. The White House Office on Environmental Policy announced in 1993 that it was estab lishing an Interagency Ecosystem Management Task Force. *Id.* at 35. It has requested $610 mil lion for 1995 ecosystem management initiatives. *Id.* Four pilot programs are currently under way which include efforts: "to restore the old-growth forests of the Pacific Northwest; to restore the natural resources damaged from the Exxon Valdez disaster; to restore the ecological health of South Florida"; and "to restore the ecological health of the Anacostia River in Mary land and the

strategies which attempt to protect wildlife on an individual species basis are not as effective as those which emphasize ecosystem conservation."[13] While there is presently no rule of international law that forces sovereign states to apply ecosystem management regimes to natural resources, "international environmental policy is proceeding towards an ecosystem approach which protects wildlife while maximizing genetic diversity."[14]

An ecosystem has been defined as an area "whose boundaries reflect ecosystem population processes and patterns, providing sufficient area, diversity, and complexity for continued self-organiza-

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District of Columbia." *Id.* at 36. The Department of the Interior has created a new agency, the National Biological Survey, that will gather, analyze, and circulate biological infor mation that will assist in ecosystem management. *Ecosystem Management: Clinton Administration Needs to Set Clear Policy Goals, GAO Report Says*, Nat'l Envtl. Daily (BNA), Sept. 21, 1994.

See also Endangered Species Act Reauthorization, Hearings Before the Subcommittee on Clean Water, Fisheries and Wildlife of the Senate Committee on Environment and Public Works, 103rd Cong., 2nd Sess. (1994) (testimony of Hank Fischer, Northern Rockies Representative Defenders of Wildlife, calling for ESA ecosystem management on private lands, with compensation to affected parties); C. Zinkan, *Waterton Lakes National Park Moving Towards Ecosystem Management, in* SCIENCE AND THE MANAGEMENT OF PROTECTED AREAS, 229-32 (S. Bondrup-Nielsen et al. eds., 1992) (addressing the beginnings of ecosystem management in Waterton and Glacier National Park Biosphere Reserves in Alberta and Montana); THE SCIENTIFIC SIGNIFICANCE OF THE AUSTRALIAN ALPS (R. Good ed., 1989) (addressing governmental efforts to coordinate management over a large multi-jurisdictional area for the Australian Alps National Parks Liaison Committee and Australian Academy of Science, Canberra); R. Good, *The Kluane/Wrangell-St. Elias National Parks, Yukon and Alaska: Seeking Sustainability Through Biosphere Reserves*, 12 MOUNTAIN RESEARCH & DEVELOPMENT 87-96 (1992); R. Good, Integrating Park and Regional Planning With an Ecosystem Approach, Presented at the Fourth World Congress on National Parks and Protected Areas, Caracas, Venezuela (1992); K. Van Tighem, *Continent's Crown at Risk*, ENVTL. VIEWS, Summer 1991, at 3 (1991); Craig Manson, *Natural Communities Conservation Planning: California's New Ecosystem Approach to Biodiversity*, 24 ENVTL. L. 603 (1994); BANFF BOW VALLEY STUDY (Banff Bow Valley Study Office, 1994) (current study which has as one of its stated purposes to develop an ecosystem-based management approach to the decision-making process in Banff, Canada's oldest national park and part of a UNESCO World Heritage Site). BANFF officials have realized that the best way to protect some species is to protect all species (including the wolf), so that a balanced co-existence can be achieved. Jeff Adams, *Parks Packed With Prey: Well-Fed National Park Wolf Packs Face Habitat Competition*, CALGARY HERALD, Oct. 22, 1994, at B4.

Cf. A. Dan Tarlock, *The Nonequilibrium Paradigm in Ecology and the Partial Unraveling of Environmental Law*, 27 LOY. L.A. L. REV. 1121, 1134 n.57 (1994) (citing COMMITTEE ON SCIENTIFIC AND TECHNICAL CRITERIA FOR FEDERAL ACQUISITION OF LANDS FOR CONSERVATION, NATIONAL RESEARCH COUNCIL, SETTING PRIORITIES FOR LAND CONSERVATION 113-38 (1993)).

> [T]he nonequilibrium paradigm as it is being applied to biodiversity protection potentially dissolves the land boundaries that we have built up over centuries and tends the time-scale of management decisions. Public versus private land, national parks versus national forests have no meaning. Under the nonequilibrium paradigm, all natural resources management is an ongoing experiment instead of a series of discrete, final decisions.

Id.

13. Batchelor, *supra* note 11, at 334 (citing Edwin M. Smith, *The Endangered Species Act and Biological Conservation*, 57 S. CAL. L. REV. 361 (1984)).

14. *Id.*

tion and self-maintenance in the absence of catastrophic external circumstances."[15] Each ecosystem "is a complex, connected system with functional and organizational properties inherent in, and particular to, the individual ecosystem."[16]

Ecological planning that does not take into consideration every element of the given ecosystem is flawed from its inception, and any result of the plan will thus be ineffectual.[17] Ecological planning must take into consideration not only those plants and animals that

15. Slocombe, *supra* note 11, at 614. *See also* EDWARD O. WILSON, THE DIVERSITY OF LIFE 396 (1992); JEFFREY A. MCNEELY ET AL., CONSERVING THE WORLD'S BIOLOGICAL DIVERSITY 84 (1990); *GAO Report*, *supra* note 12, at 20-24; FRANK B. GOLLEY, A HISTORY OF THE ECOSYSTEM CONCEPT IN ECOLOGY (1993). *But cf. Biodiversity: Conservative Groups Blast Treaty, Criticize Use of Ecosystem Management*, Nat'l Envtl. Daily (BNA), Sept. 21, 1994 (arguing that ecosystems are not real, and are nothing more than mental constructs which would probably encroach on private land).

16. Slocombe, *supra* note 11, at 614.

17. For an excellent discussion on how humans have destroyed ecosystems by intentionally and unintentionally "managing" them, see A LSTON CHASE, PLAYING GOD IN YELLOWSTONE: THE DESTRUCTION OF AMERICA'S FIRST NATIONAL PARK, 16-24 (1987). During the 1870's and 1880's there was a severe poaching problem in Yellowstone. In 1886, the U.S. Cavalry was sent in to stop the carnage. The Army put up fencing seven feet high that prevented animals from leaving the park. *Id.* at 16. Between 1892 and 1912 the elk population in the park increased from approximately 25,000 to 35,000, a forty percent increase. *Id.* at 17. Despite concern that the elk population was increasing at too great a pace, the National Park Service (NPS) continued its plan of increasing the size of the herds. *Id.* at 18. During the winter of 1916-1917 many elk died of starvation. The reason for this was that the elk usually left the park in the winter, but now because of fences, roads, and other unnatural barriers, the elk were forced to stay in the park. *Id.* at 19. The effects of the elk wintering in the park was felt throughout the Yellowstone ecosystem. *Id.* at 22. The parts of the park that the elk wintered on began to show severe signs of deterioration. "Sheet erosion had removed from one to two inches of topsoil; cheatgrass and rabbitbrush—and unpalatable grasses whose presence indicates overgrazing—were spreading; browse was disappearing and sagebrush showed heavy use. Elk, confined year round in an area where once they had only summered, were eating all the aspen and willow, preventing these species from regenerating." *Id.*

At the same time, the NPS had been conducting an anti-predator campaign, killing all the wolves and mountain lions in the Park because of declining populations of white-tailed deer, antelope and bighorn. It was discovered afterwards that the reason for the decline of these species was not due to predation, but rather it was caused by the lack of wintering grounds for all the animals in the Park. *Id.* at 23. The elk population, being too large, was severely overbrowsing the winter range. This overbrowsing, which was harmful enough to the elk population, was killing the other populations which could not compete with the elk because of its size. "For two decades the Park Service had been killing predators to save the big-game ani mals. But instead they had given a competitive advantage to the largest animal—the elk. It was management policy, not predation, that was killing animals and eliminating wildlife spe cies in Yellowstone." *Id.* at 23.

The FWS is presently reintroducing the wolf to Yellowstone. *See* Endangered and Threatened Wildlife and Plants; Proposed Establishment of a Nonessential Experimental Population of Gray Wolf in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 42,108 (1994) (to be codified at 50 C.F.R. § 17); *Bringing Back Wolves*, N.Y. TIMES, June 17, 1994, at A1; Dirk Johnson, *Yellowstone Will Shelter Wolves Again*, N.Y. TIMES, June 17, 1994, at A12.

presently exist in the ecosystem, but also those that were unnaturally removed from the ecosystem.[18]

Not only must ecological planning take into consideration all present and past exterminated species, it must also avoid creating problems through the establishment of management units which bear no relation to the realities of ecological systems.[19] Arbitrary units defined by lines drawn on the map lead "to great difficulties in achieving sustainable development planning, because [they] fail . . . to foster a sense of community among people in the unit and make . . . consistent management of a complete ecological unit impossible."[20]

This comment contends that restoration and protection of the wolf in North America can only be attained through an ecological planning approach of the North American States. Part II of this comment reviews the current status of the wolf in North America. Part III examines attributes of several international wildlife agreements which could be used as the foundation of a wolf preservation treaty. Part IV assesses the significance of the newly-enacted North American Free Trade Agreement on the wolf. Finally, part V defines the essentials of a successful North American wolf treaty and sets forth a proposed convention which would meet these requirements.

II. CURRENT STATUS OF THE WOLF IN NORTH AMERICA IN AREAS OF CONCERN[21]

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18. Although as the dominant species on the planet we must strive to replace those species that have been removed from ecosystems, the real battle is "[w]orking on habitat protection and ecosystem management so species don't get endangered in the first-place." Michael Hanback, *Perilous Time For The Endangered Species Act: Its Renewal Is A Critical Concern For Outdoorsmen*, 193 OUTDOOR LIFE 38 (1994) (quoting Mike Spear, Assistant Director, U.S. Fish and Wildlife Service Ecological Services).

19. Slocombe, *supra* note 11, at 619.

20. Slocombe, *supra* note 11; *see generally GAO Report*, *supra* note 12. The wolf is a predator and one of the many animals that are essential links in natural ecosystems. For a discussion of the wolf's food habits, hunting habits, selection of prey and the effects of wolf predation *see* MECH, *supra* note 2, at 168-279. The wolf is tasked with strengthening its prey herds. *Id.*; *see* Diane K. Boyd et al., *Prey Taken by Colonizing Wolves and Hunters in the Glacier National Park Area*, 58(2) J. WILDLIFE MGMT. 289 (1994) (examining kills by wolves in the Glacier National Park area during the winters of 1985-1991). The wolf does this by killing the old, the sick and the young of its prey populations. *Id.* When the wolf kills the sick in the herd it eliminates a diseased animal from the gene pool. These diseased genes will not be passed along to future generations. The killing of some of the young and old serves the purpose of keeping the herd's population in check so that it does not overburden the resources on which it feeds. *Id.* Unlike humans, who hunt and kill the herd's strongest members, thus ensuring that the fittest genes will not be carried on in the offspring, the wolf kills the weak links in the herd and ensures that the sick and diseased do not reproduce. As a result, the most fit genes reproduce, and the herd is strengthened. *Id.*

21. This article does not address the Northeast Wolf Recovery Plan. *See* U.S. Fish and Wildlife Service, Extension of Comment Period for Draft Revised Recovery Plan for the Eastern

A. *Background of Wolf Recovery Efforts*

Wolf recovery efforts began in the 1970's with an interagency recovery team established by the U.S. Fish and Wildlife Service (FWS).[22] The efforts of this interagency team culminated in a 1980 plan which recommended that a "combination of natural recovery and reintroduction be used to recover wolf populations in the area around Yellowstone National Park (Park) north to the Canadian border . . . ."[23]

In 1987, the FWS approved a revised recovery plan.[24] The revised plan "identified a recovered wolf population as being at least [ten] breeding pairs of wolves, for [three] consecutive years, in each of [three] recovery areas (northwestern Montana, central Idaho and the Yellowstone area)."[25] Authorities estimate that, had the revised recovery plan been followed, approximately 300 wolves would have populated the identified regions.[26] The plan recommended natural recovery in Montana and Idaho and an experimental population in Yellowstone under section 10(j) of the Endangered Species Act (ESA).[27] The plan recommended the experimental population in Yellowstone because of potential negative impacts.[28] The plan realized that natural recovery efforts might not be successful in Idaho.

Timber Wolf, 55 Fed. Reg. 13,855 (1990); U.S. Fish and Wildlife Service, Availability of Revised Recovery Plan for the Eastern Timber Wolf, 57 Fed. Reg. 22,824 (1992). 1 THE NORTHERN FOREST FORUM 5 (Restore: The North Woods, Concord, Mass.) 1993. If wolf recovery efforts are successful in the Northwest, there will be no further recovery efforts, for the ESA only pro vides for recovery of the species, and not for recovery of the species in each and every habitat that it once populated. *Id.*

There are, however, recovery efforts underway to reintroduce the Mexican Wolf (Canis lupus baileyi), a subspecies of Canis lupus, into the southwestern United States. *See* U.S. Fish and Wildlife Service, Intent to Prepare an Environmental Impact Statement on the Experimental Reintroduction of Mexican Wolves (Canis lupus baileyi) into Suitable Habitat within the Historic Range of the Subspecies, 57 Fed. Reg. 14,427 (1992); Barry Burkhar, *Agency Ok's Plan to Release Wolves In Arizona's Wilds*, ARIZ. REPUBLIC, Oct. 23, 1994, at B1 (Arizona has approved a draft to reintroduce the Mexican Wolf into the Blue Range Area of eastern Arizona, however, the final decision regarding reintroduction is to be made by the FWS late 1995). There are presently five sites in Mexico and thirteen in the United States where the Mexican Wolf is being bred or held in captivity in order to maintain the species' genetic diversity and to provide a sufficient number for reintroduction purposes. *Reintroduction, supra* note 2, at 8. Six cites are being considered for reintroduction: four in southeastern Arizona, White Sands Missile Range in southcentral New Mexico, and Big Bend National Park in Texas. *Id.*

22. 59 Fed. Reg. 42,118, 42,119 (1994) (to be codified at 50 C.F.R § 17) (proposed Aug. 16, 1994).

23. *Id.*

24. *Id.* (citing U.S. Fish and Wildlife Service, Northern Rocky Mountain Wolf Recovery Plan, Denver, Colorado (1987)).

25. *Id.*

26. *Id.*

27. *Id.* *See infra* note 41.

28. *Id.*

Therefore, other conservation measures were suggested provided that two wolf packs were not established within five years[29]

In 1990, a committee comprised of three federal, three state and four interest groups was appointed to explore and recommend a wolf restoration plan for Yellowstone and central Idaho[30] In May of 1991 the committee recommended, although not unanimously, re-introduction into Yellowstone and the possible reintroduction of an experimental population into central Idaho[31] Congress took no action on the initial recommendations[32] However, four months later, in November of 1991, Congress directed the FWS to prepare an environmental impact statement (EIS) in consultation with the National Park Service and the Forest Service "that considered a broad range of alternatives on wolf reintroduction to Yellowstone National Park and central Idaho."[33] In 1992, "[c]ongress directed the Service to complete the EIS by January 1994 and indicated that the preferred alternative should be consistent with existing law."[34]

The FWS filed the final EIS with the EPA on May 4, 1994[35] The proposal set forth in the EIS was identical to that proposed by the committee three years earlier. It recommended the reintroduction of nonessential experimental populations of gray wolves to Yellowstone National Park and central Idaho[36] The Secretary of the Interior signed the Record of Decision on June 15, 1994[37] "The decision directed the implementation of the Service's proposed action as soon as practical."[38]

B. Idaho[39]

29. *Id.*
30. *Id.*
31. *Id.*
32. *Id.*
33. *Id.*
34. *Id.* Official comments were accepted beginning July 1, 1993 and continuing until November 26, 1993. *Id.* Comments were received from over 162,000 individuals, organiza tions and governmental agencies. *Id.*
35. *Id.*
36. U.S. Fish and Wildlife Service, Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho, Final Environmental Impact Statement, Helena, Montana (1994). The final EIS also considered four alternatives: (1) Natural Recovery (no action); (2) No wolf; (3) Wolf Management Committee; and (4) Reintroduction of Nonexperimental Wolves. 59 Fed. Reg. 42,118, 42,119 (1994) (to be codified at 50 C.F.R. § 17) (proposed Aug. 16, 1994).
37. 59 Fed. Reg. 42,118, 42,119 (1994) (to be codified at 50 C.F.R. § 17) (proposed Aug. 16, 1994).
38. *Id.*
39. Prior to 1986, there was no evidence of wolf repopulation in the Rocky Mountain areas, discussed *infra* note 2, for a period of about 50 years. 59 Fed. Reg. 42,118 (1994) (to be codified

On August 16, 1994, the FWS issued a proposal to reintroduce the wolf into central Idaho.[40] The reintroduced wolf would be classified as a nonessential experimental population according to section 10(j) of the ESA.[41] Thus, the reintroduced wolves would not be accorded the protections that wolves presently living in Idaho are accorded.

The wolf population will be reintroduced into federal land managed by the USDA Forest Service.[42] The reintroduction site consists of approximately 20,000 square miles of national forests and 6,000 square miles of wilderness habitat.[43] The FWS believes that this site is sufficiently distant from the current southern expansion packs in

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at 50 C.F.R. § 17). Although there have been sightings and historical reports of repro ducing adults, experts state that there is no established population. *Id.*

40. *Id.* A portion of southwestern Montana would also be incorporated into the reintroduction effort. *Id.* The reintroduced wolves, approximately 45 to 75, would be obtained from wolf populations from southwestern Canada. *Id.* at 42,120.

About 15 wild wolves would be captured annually from several different packs over the course of [three to five] years by trapping, darting from helicopters, or net gunning in the autumn and winter. Upon capture, the wolves would receive veterinary care, including examinations and vaccinations as necessary, and they would be transported to central Idaho by truck or plane. In central Idaho, groups of wolves, each consisting of young adults from various packs, would be fitted with radio collars, released in several areas, and monitored by radiotelemetry. This method is referred to as a "hard release," i.e., the wolves would be released upon or shortly after transport to each release site. Wolves to be released would not be held on site for acclimation, nor would any food or care be provided after they were released. It is anticipated that the wolves will move widely, but eventually find mates and form packs. All wolves would be monitored by radio telemetry, and if wolves cause conflicts with humans, they will be recaptured and controlled according to the procedures that have been used with other problem wolves. Subsequent releases would be modified depending upon information obtained during the reintroduction effort. Utilizing information gained from the initial phase of the project, an overall assessment of the success of the reintroduction would be made after the first year, and for every year thereafter. It is thought that the physical reintroduction phase will be completed within [three to five] years. After the reintroduction of wolves has resulted in two packs raising [two] pups each for [two] consecutive years, the wolf population will be managed to grow naturally toward recovery levels. *Id.* at 42,120.

41. Section 10(j) of the ESA provides:

> a reintroduced population of a listed species established outside its current range, but within its historic range may now be designated, at the discretion of the Secretary of the Interior (Secretary), as 'experimental.' The Act requires that an experimental population be separated geographically from nonexperimental populations of the same species. Furthermore, an experimental population is treated as a threatened species [10(j)(2)(C)], except that, solely for section seven purposes (except for subsection (a)(1)), an experimental population determined not to be essential to the continued existence of a species is treated, except when it occurs in an area within the National Wildlife Refuge System or the National Park System, as a species proposed to be listed under section 4 of the Act [10(j)(2)(C)(i)]. Activities undertaken on private lands are not affected by section seven of the Act unless they are funded, authorized or carried out by a Federal agency.

Id. at 42,118.

42. *Id.*

43. *Id.*

Montana so that wolves documented within the reintroduction area will most likely be from the reintroduction and not from other areas[44]

Once reintroduced into the designated site, all wolves, including those not resulting from reintroduction, will be declared as a nonessential experimental population[45] Likewise, if a reintroduced wolf leaves its designated area its status will change to endangered. If and when wolves return to such an area, their status will become experimental again.[46] The FWS estimate that this program, in conjunction with reintroduction in Yellowstone and natural recovery in Montana will "result in a viable recovered wolf population (ten breeding pairs in each of three recovery areas for three consecutive years) by about the year 2002."[47]

C. Montana

It is currently estimated that there are about sixty five wolves living in Montana, most of which are living near the Canadian border[48] The wolf population has continued to expand at about twenty-two percent for the past nine years.[49] Interestingly enough, livestock kills attributed to wolves have gone down during the last three years, with none occurring in 1993.[50] Defenders of Wildlife (DOW) is paying market value compensation to livestock producers who have suffered losses as a result of the destruction caused by wolves. DOW has paid out more than $16,000 to seventeen livestock producers since the plan's inception in 1987.[51]

Wolves are currently listed as an endangered species in Montana.[52] In order for the "endangered species" status to be changed to "threatened species,"[53] "two of the three targeted areas for wolf

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44. *Id.*
45. *Id.*
46. *Id.*
47. *Id.*
48. *Id.* at 42,119.
49. *Id.* at 42,120.
50. *Id.* In 1993, there were 20 complaints involving suspected attacks on cattle, sheep, horses, mules and household pets. Government officials deduced, based on the evidence, that wolves took no part in the killing and that they were most likely committed by eagles, grizzly bears, coyotes, calving complications and domestic dogs. John G. Mitchell, *Uncle Sam's Undeclared War Against Wildlife*, WILDLIFE CONSERVATION, Sept.-Oct. 1994, at 24. Nineteen wolves have been removed from northwestern Montana from 1986 to the present due to livestock predation. *Id.*
51. Testimony of Hank Fischer, July 19, 1994 on ESA Reauthorization, 103rd Cong., 2nd Sess., *supra* note 12.
52. 50 C.F.R. § 17.11 (1994).
53. A "threatened species" is "any species which is likely to become an endangered species within the foreseeable future . . . ." 16 U.S.C. § 1532(20) (1988).

recovery would need to have breeding pairs for at least three consecutive years."[54] Wolf populations in Montana have reached the plateau where the numbers should increase steadily[55]

Glacier International Peace Park (Glacier) is located in Northwestern Montana. Glacier shares its northern border with Canada's Waterton Park. At this time there are approximately thirty to forty wolves living in Glacier.[56] The population usually increases by five or six during the summer months when a pack migrates from Alberta.[57]

Wolves in Canada are not protected outside of Waterton. Landowners and hunters, assuming they have complied with applicable hunting regulations, are therefore free to kill any wolf regardless of whether the wolf is attacking livestock or posing a threat[58] Wolves routinely cross the border from Glacier into Waterton and then from Waterton onto private lands, where they can be shot[59] While this situation has probably slowed wolf recovery in Glacier, the wolf population still appears healthy.[60]

D. Washington and Cascades National Park

The exact number of wolves currently populating the State of Washington is unclear. Wolf sightings for 1993 through April 18, 1994 number 140, with approximately 120 of the sightings in Cascades National Park.[61] Of these sightings, approximately ten per year can be attributed to "wolf dogs"[62] who have either been intentionally or unintentionally released.[63]

Currently, there is no plan to augment wolves into North Cascades National Park in an effort to increase the area's wolf popula-

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54. *Minnesota: Livestock Kills Cause Concern*, WOLF!, Winter 1994, at 32, 32 (1994).

55. *Id.*

56. Telephone Interview with Steve Gniadek, Wildlife Biologist, Glacier International Park (April 15, 1994).

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.*

61. Telephone Interview with Jon Almack, Research Biologist for Grizzly Bears and Wolves, Washington Department Fish and Wildlife (April 18, 1994). Although 120 of the 140 sightings were in Cascades National Park, this figure is probably skewed in that this is the area where the research is being concentrated. *Id.*

62. The term "wolf dog" refers to an animal that is part wolf and part dog. States vary as to legislation regulating these animals. WEBSTER'S NEW TWENTIETH CENTURY DICTIONARY UNABRIDGED 2102 (2d ed. 1983). Some ban their breeding and possession outright, while others have minimal restrictions.

63. Almack, *supra* note 61.

tion.[64] Such a decision to augment the wolf would have to be based on scientific evidence which would require a working knowledge of the number of wolves currently in the park and their migratory patterns, none of which is known at the present time.

E. Minnesota

Minnesota has the largest population of wolves in the lower forty-eight states. Wolves in Minnesota are classified as a "threatened species"[65] as opposed to an "endangered species."[66] The ESA requires the Secretary of the Interior to provide for the conservation of listed species.[67] "[I]n the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, [conservation] may include regulated taking."[68] The ESA further requires the implementation of "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary."[69]

Six months after the ESA passed, the Minnesota Department of Natural Resources promulgated an administrative order allowing the taking of wolves under certain circumstances.[70] This order began the long process of attempting to fashion a program that was acceptable to hunters, farmers, conservationists and the state and federal governments.

After numerous lawsuits,[71] the parties settled their differences and a court order allowed the FWS to trap one half mile from predation sites. More importantly, the FWS "was still required to use reasonable efforts to trap only offending animals: (1) trap at farms where predation occurred, (2) attempt to trap those animals engaged in the predation, and (3) release young of the year through August 1."[72]

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64. Telephone Interview Bob Kuntz, Wildlife Biologist, North Cascades National Park (April 18, 1994).

65. *See supra* note 53.

66. *See supra* note 2.

67. 16 U.S.C. § 1533(d) (1988).

68. 16 U.S.C. § 1532(3) (1988).

69. *Id.*

70. Brian B. O'Neil, *The Law of Wolves*, 18 ENVTL. L. 227, 228 (1988) (citing Minnesota Department of Natural Resources, Commissioner's Order No. 1899 (May, 17, 1974)). *See also* Dale D. Goble, *Of Wolves and Welfare Ranching*, 16 HARV. ENVTL. L. REV. 101 (1992).

71. *See* Brzoznowski v. Andrus, Civ. No. 5-77-19 (D. Minn. June 9, 1978), Fund for Animals v. Andrus, 11 Env't Rep. Cas. (BNA) 2189 (D. Minn. 1978), Sierra Club v. Clark, 577 F. Supp. 783 (D. Minn. 1984), *aff'd in part and rev'd in part*, 755 F.2d 608 (8th Cir. 1985), *on remand* 607 F. Supp. 737 (D. Minn. 1985).

72. O'Neil, *supra* note 70, at 236 (citing Sierra Club v. Clark, 607 F. Supp. 737, 738 (D. Minn. 1985)).

The appellate court's decision stated three important principles:

> First, [the ESA] does not permit a sport season on *threatened species* absent "extraordinary circumstances." Sport seasons on *endangered* species are totally banned. Second, [the ESA] *does* give the Secretary discretion to remove animals depredating on livestock. A program that is designed to deal with problem animals, as opposed to reduction efforts aimed at the general population, may be legally acceptable. Third, [the ESA] extends a targeted livestock predation control program to both threatened *and* endangered animals.[73]

The final Minnesota program adopted the following standards:

> 1. A sport season is generally not allowed; 2. Control efforts must further wolf recovery; 3. The least restrictive alternative for control must be used . . . ; 4. Control efforts are permissible only if a federal trapper determines that significant predation on lawfully present domestic livestock has occurred. If the area in which the predation occurred, however, is of particular significance to the wolf recovery effort, control efforts are impermissible . . . ; 6. Reasonable, objective limitations for the control effort must be established. For example, how far away from the site trapping occurs and for how long it continues; 7. No trade in wolf pelts or parts is allowed.[74]

The Minnesota program has worked reasonably well.[75] In 1992, 118 wolves were killed and livestock owners were compensated approximately $40,000.[76] The Minnesota program might serve as a model for those parts of the wolf's present ecosystem that are extensively populated by humans. According to FWS researchers, 1,700 wolves share the land with 7,000 farms. On average, only 29 of those farms suffer confirmed livestock losses due to wolves annually.[77]

III. INTERNATIONAL WILDLIFE AGREEMENTS THAT MAY PROTECT THE WOLF IN NORTH AMERICA OR SERVE AS MODELS FOR FUTURE TREATIES

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73. *Id.* at 237.

74. *Id.* at 237-38.

75. A forum was held in Bemidji, Minnesota on January 6, 1994, addressing the concerns of area livestock producers. WOLF!, *supra* note 54, at 32. The forum was facilitated by the University of Minnesota Extension Service and included federal and state officials and legislators. *Id.* Livestock producers expressed concerns regarding the $400 maximum compensation per kill and bureaucratic details that can hold payments for as long as 18 months. The producers feel "that they are bearing too large a portion of the expense of allowing the wolf to repopulate in Minnesota." *Id.*

76. *Id.*

77. Mitchell, *supra* note 50, at 24.

Wildlife treaties have emerged from a variety of sources. Organizations such as the Pan American Union (now the Organization of American States), the United Nations Educational, Scientific and Cultural Organization, and the Organization of African Unity have all been driving forces behind the formation of important wildlife treaties.[78] There have also been important non-governmental forces such as the International Union for Conservation of Nature and Natural Resources (IUCN) and the World Wildlife Fund (WWF)[79] The following is an examination of some treaties which may be applicable to wolves in North America as written, and others which may serve as models for a future treaty between the United States and Canada that would provide protection for the wolf and the humans that share its world.

A. UNESCO Convention for the Protection of the World Cultural and Natural Heritage[80]

The UNESCO Convention for the Protection of the World Cultural and Natural Heritage (UNESCO) was signed in Paris on November 23, 1972.[81] In its preamble, UNESCO states that "it is incumbent on the international community . . . to participate in the protection of the cultural and natural heritage of outstanding universal value, by the granting of collective assistance which, although not taking the place of action by the state concerned, will serve as an effective complement thereto."[82]

In Article 6(3), UNESCO places a duty on the international community to cooperate in implementing UNESCO's purpose. Included in this duty is an obligation not to take "any deliberate measures which might damage directly or indirectly the [world's] cultural and natural heritage . . . ."[83] This provision might apply, for instance, to transboundary pollution problems.

The UNESCO duty to co-operate is vague. The United States may argue that wolf migration between Canada and the United States is part of the world's heritage that should not be destroyed. The United States may claim that there is a compelling scientific need to protect wolves and their inherent place in an ecosystem.

78. Batchelor, *supra* note 11, at 327.

79. KISS & SHELTON, *supra* note 8, at 58.

80. Convention for the Protection of the World Cultural and Natural Heritage, Nov. 16, 1972, 27 U.S.T. 37 [hereinafter UNESCO].

81. *Id.*

82. *Id.* at 40.

83. *Id.* at 42.

While UNESCO is unique in that it deals with the organic and the inorganic, it provides protection primarily to those cultural and natural resources that are situated within a state's borders[84] Accordingly, UNESCO does not offer much protection to the wolf in North America.

B. Western Hemisphere Convention

The Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (Western Hemisphere Convention) was ratified on October 12, 1940.[85] While Mexico and the United States signed the treaty along with 16 other countries, Canada did not[86]

Its objectives are to:

> protect and preserve in their natural habitat representatives of all species and genera of . . . native flora and fauna . . . in sufficient numbers and over areas extensive enough to assure them from becoming extinct through any agency within man's control . . . [and to] protect and preserve scenery of extraordinary beauty, unusual and striking geologic formations, regions and natural objects of aesthetic, historic or scientific value, and areas characterized by primitive conditions in those cases covered by this Convention . . . .[87]

Article V of the Western Hemisphere Convention was intended to protect species found outside national parks, national reserves, nature monuments and strict wilderness areas. This article had the potential to be a powerful tool for use by wildlife conservationists; however, it was not drafted effectively.[88] The article does not require the contracting parties to protect wildlife outside of their countries' parks, but merely asks them to "propose such adoption."[89]

The Western Hemisphere Convention is also flawed in that it does not address concerns such as exploitation of wildlife, threats from toxic substance and modification of natural wildlife habitats. Additionally, the Convention only requires that applied laws be "suitable" and that the taking of species be "proper."[90]

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84. *Id.* at 41-42.

85. Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, Oct. 12, 1940, 56 Stat. 1354 [hereinafter Western Hemisphere Convention].

86. *Id.*

87. *Id.* at 1356.

88. Gary D. Meyers & Kyla S. Bennett, *Answering "The Call of the Wild": An Examination of U.S. Participation in International Wildlife Law*, 7 PACE ENVTL. L. REV. 75, 99 (1989); LYSTER, *supra* note 1, at 103.

89. Meyers & Bennett, *supra* note 88, at 88.

90. LYSTER, *supra* note 1, at 104.

Despite its weakly-drafted provisions, the Western Hemisphere Convention utilizes two methods to protect wildlife which may be helpful to the preservation of the wolf in North America. First, wildlife within parks, reserves, and monuments cannot be killed or captured unless authorized by park personnel. Although wolves are already protected in national parks throughout Canada and the United States, this provision reinforces park policies.[91]

Another possible protection is for the wolf to be defined as one of the species in the annex of wildlife species whose protection "is declared to be of special urgency and importance."[92] The Western Hemisphere Convention states that annexed species "shall be protected as completely as possible, and their hunting, killing, capturing, or taking shall be allowed only with the permission of the appropriate government authorities."[93] The taking of annexed species is allowable only in order to "further scientific purposes, or when essential for the administration of the area . . . ."[94] However, as evidenced by the recent Alaska wolf kill program,[95] the "essential for the

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91. There has been a recent request by environmental groups to establish a permanent international office to implement the Western Hemisphere Convention. *Environmental Groups Want Secretariat Created To Implement Conservation Treaty*, Nat'l Envtl. Daily (BNA), April 8, 1994. The FWS's Western Hemisphere Program, the Department of the Interior, the EPA and the Agency for International Development have expressed support for this proposal. The State Department, however, has opposed it because it would require budget cuts in other programs to obtain funding. *Id.*

92. Western Hemisphere Convention, *supra* note 85, at art. VIII.

93. *Id.*

94. *Id.*

95. The State of Alaska allows for more than 1000 wolves to be killed each year through "normal" hunting and trapping. *Alaska Wolf Kill Continues*, *supra* note 5, at 1. In addition to the regular allowable killing, Governor Wally Hickel has implemented a "wolf control strategy" which permits the killing of all but 35 of the 150 to 200 wolves located in the 4,000 square mile "Game Management Unit 20A Control Area," south of Fairbanks. *Id.* The goals of this program are: "1) to increase the Delta caribou herd from its current population of 4,000, to 6,000-8,000 with a sustainable annual harvest of 300-500 caribou by the year 1998; and 2) to determine whether ground-based control methods can effectively reduce wolf numbers." *Id.* The wolf kill program resulted in the deaths of 98 wolves in 1993-1994, 70% of which were pups. Telephone Interview with Stacey Zetterberg, Alaska Wildlife Alliance (Apr. 18, 1994). The bodies were taken to an Alaska Department of Fish and Game lab where they were first sexed and weighed, and then had their stomach contents examined, their heads cut off, their tissue sampled and measures of subcutaneous fat taken. *Alaska Wolf Kill Continues*, *supra* note 5, at 1.

Conservationists oppose the Governor's program as being contrary to scientific evidence and motivated by pressure from the hunting lobby. They state that although the caribou population has declined in recent years, this decline comes on the heels of a 12-year increase in herd size which was "initiated by a predator reduction effort in the late-1970's concurrent with a ban on hunting, and sustained by one of the warmest decades in Alaskan history." *Id.* They further cite the fact that the Delta herd population is well above its historical average populations and that caribou populations statewide have nearly quadrupled since the mid-1970's. *Id.*

The wolf kill was suspended in early December of 1994 when a wildlife biologist captured on video a State Department of Fish and Game biologist shooting a snared wolf five times

administration of the area" criteria is not difficult to meet. Thus, even if the wolf is included as one of the species in the annex of wildlife species, the wolf may not be provided any more protection than it currently possesses.

Although the Western Hemisphere Convention, in theory, offers protection to wildlife and their habitats, many changes would have to be made for it to be of any practical value to the wolf in North America, most notable of course would be Canada's inclusion. The strength of the convention lies not in its present condition but in its possibilities.[96] If future wildlife treaties and conventions mandate, rather than suggest, sweeping protections for wildlife and their habitats, they will become more effectual.

C. The Convention on the Conservation of Migratory Species of Wild Animals[97]

Twenty-eight states signed the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) on June 23, 1979.[98] It came into effect on November 1, 1983. The contracting parties state in the preamble that they recognize "that wild animals in their innumerable forms are an irreplaceable part of the earth's natural system which must be conserved for the good of mankind."[99]

The Bonn Convention provides strict protection for designated endangered species. The wolf has characteristics similar to the designated endangered species. The Bonn Convention is particularly concerned with "those species of wild animals that migrate across or outside national jurisdictional boundaries."[100]

Article I defines "endangered" as a migratory species "in danger of extinction throughout all or a significant portion of its range."[101] A "migratory species" is defined as "the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional

before it died and another wolf that chewed its foreleg off in an attempt to escape from one of the over 700 snares set by the Alaska Department of Fish and Game in the 1,000-square-mile area in the Alaskan Range south of Fairbanks. *TV Pictures Lead Alaska to Suspend Wolf Killing,* N.Y. TIMES, Dec. 3, 1994, A8.

96. Meyers & Bennett, *supra* note 88, at 99.

97. Convention on the Conservation of Migratory Species of Wild Animals, June 23, 1979, 19 I.L.M. 11 [hereinafter Bonn Convention].

98. *Id.*

99. *Id.* at pmbl.

100. *Id.* at art. I(a).

101. *Id.* at art. I(e).

boundaries."[102] "Range" is defined as "all the areas of land or water that a migratory species inhabits, stays in temporally, crosses or overflies at any time on its normal migration route."[103]

Particularly noteworthy regarding the wolf in North America, is that the Bonn Convention follows a precedent set out by the Convention on International Trade in Endangered Species of Wild Fauna and Flora[104] (CITES) by allowing geographically separate populations of a species to be considered independently.[105] This concept has proved extremely useful in the context of CITES in enabling a "State with a non-endangered well-managed population of a species which is endangered in other States to allow limited exploitation of its population and, conversely, in enabling States to single out endangered populations of a species for special protection when populations elsewhere are not endangered."[106] If the United States and Canada were to enter into an agreement which copied Article I language from the Bonn Convention, with a few crucial modifications to the definitions of migratory and range, wolves would be defined as an endangered species and thus protected in both countries, with Canada having limited exploitation rights.

D. Convention on the Conservation of Polar Bears[107]

Canada, Denmark (including Greenland), Norway, the United States and the Soviet Union signed the Agreement on the Conservation of Polar Bears (Polar Bear Convention) in Oslo on November 15, 1973.[108] Its purpose was to manage the polar bear as a resource. The convention had three main objectives: to coordinate among the parties in regard to research programs, to restrict the killing and

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102. *Id.* at art. I(a). The United States delegation to the Final Conference, held in June of 1979, "suggests that species living in border areas are now not to be considered migratory for the purposes of the Convention unless their trans-boundary movement is in response to seasonal or longer term environmental influences." LYSTER, *supra* note 1, at 281 (citing *Report of the U.S. Delegation to the Conference to Conclude a Convention on the Conservation of Migratory Species of Wild Animals,* at 2-4 (Oct. 17, 1979) (available from the U.S. Department of State, Washington D.C.)). Most parties to the Convention do not agree with the United States' restrictive interpretation of migratory. *Id.* at 282.

103. Bonn Convention, *supra* note 97, at art. I(f).

104. Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 27 U.S.T. 1087 [hereinafter CITES]; *see* LYSTER, *supra* note 1, at 280.

105. *Id.*

106. *Id.* Four of the original forty listings in Appendix I consist of geographically separate populations of species. These four species are the Northwest African populations of dorcas gazelle and houbara, Upper Amazon populations of giant turtles and non-Peruvian populations of vicuna. *Id.* at 281.

107. Agreement on the Conservation of Polar Bears, Nov. 15, 1973, 27 U.S.T. 3918, 3921 [hereinafter Polar Bear Convention].

108. *Id.*

capturing of polar bears, and to protect the ecosystems of which polar bears are a part.[109]

Article II of the agreement states that "[e]ach Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns . . . ."[110] Because of the migratory patterns of the polar bear, these protections could possibly be extended over large areas of land.

The Polar Bear Convention prohibits the taking of polar bears except as provided for in Article III, which permits takings where it is carried out:

> (a) for *bona fide* scientific purposes; or (b) by that Party for conservation purposes; or (c) to prevent serious disturbance of the management of other living resources, subject to forfeiture to that Party of the skins and other items of value resulting from such taking; or (d) by local people using traditional methods in the exercise of their traditional rights and in accordance with the laws of that Party; or (e) wherever polar bears have or might have been subject to taking by traditional means by its nationals.[111]

Paragraph (e) is particularly confusing and is interpreted differently. The United States has interpreted it "to allow taking by a country's own nationals, but only by traditional means and only where taking has or may have previously been done."[112] Canada, on the other hand, interprets the paragraph as allowing "taking by anyone using any means, provided it is done only in the area where it has or might have been done in the past by traditional means."[113] It follows that this interpretation would allow limited sport hunting by non-residents provided "it is done as part of the Inuit quota and is guided by Inuit hunters."[114]

Article III is also of particular interest because it allows polar bear by-products to be sold for profit if they were taken pursuant to paragraphs (a), (d) and (e).[115] This provision does allow for certain commercial trade, but each country party to the convention has strict

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109. LYSTER, *supra* note 1, at 55 n.78 (citing Consultative Meeting of the Contracting Parties to the Agreement on the Conservation of Polar Bears (1981), Report of the Meeting: Summary and Conclusions, Oslo, January 20-22 (1981)).

110. Polar Bear Convention, *supra* note 107, at art. II.

111. *Id.* at art. III.

112. LYSTER, *supra* note 1, at 57 n.85 (citing MICHAEL J. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW, at 268 (1983)).

113. *Id.*

114. *Id.*

115. *Id.*

national legislation regulating by-products trade.[116] International by-products trade is controlled by CITES.[117] Article II of the Polar Bear Convention states that "[e]ach Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns . . . ."[118] Though the methods that each party uses in carrying out this objective are discretionary, "the underlying obligation is firm, and the Agreement makes no provision for any exceptions to be made to it."[119] There have been some measures taken in furtherance of this objective;[120] however, meeting the ultimate objective of protecting denning, feeding sites, and migratory patterns is a difficult, if not impossible, goal due to the wide ranging nature of the polar bear and the fact that the ultimate resting place for a particular pollutant may be hundreds of miles from its point of origin.[121]

The Polar Bear Convention has been viewed as a success in regard to its generally mandatory language.[122] However, the lack of a permanent administrative structure to oversee enforcement and to meet regularly in order to improve the agreement has been viewed as a weakness because it "may make it easier for Parties to ignore the provisions of the Agreement if they prove to be a serious stumbling block to future industrial development in the Arctic".[123]

E. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[124]

The preamble to CITES states:

> The Contracting States, [recognize] that wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this and the generations to come . . . [and] in addition that international co-operation is essential for the protection of certain species of wild

116. *Id.*

117. *Id.* at 57.

118. Polar Bear Convention, *supra* note 107, at art. II.

119. LYSTER, *supra* note 1, at 57.

120. Denmark has created the largest national park in the world by devoting 700,000 square kilometers in east and northwest Greenland. Canada established the Polar Bear Provincial Park in Ontario, and the former U.S.S.R. has protected denning areas in the Wrangel Island Republic Reserve. LYSTER, *supra* note 1, at 60.

121. *Id.*

122. *Id.*

123. *Id.*

124. CITES, *supra* note 104.

fauna and flora against over-exploitation through international trade . . . .[125]

The CITES Convention recognizes that without international unity as a prerequisite, it could not achieve its inherent purpose[126]

Because CITES is primarily used in curbing abusive trade rather than protecting wildlife habitat, it has no direct application regarding the preservation of the wolf in North America[127] CITES also has no application to what happens within a party's domestic borders[128] However, CITES is important because it not only recognizes the need for international cooperation regarding wildlife, but it establishes a concrete administrative structure for implementing its purpose[129] CITES is not a "sleeping treaty" because its administrative structure constantly keeps the contracting parties alert as to what their responsibilities and obligations are[130] Other wildlife treaties should use the administrative structure established in CITES as a model when drafting future treaties.

F. The ASEAN Convention on the Conservation of Nature and Natural Resources[131]

The Association of South-East Asian Nations of Brunei, Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand signed the Convention on the Conservation of Nature and Natural Resources (ASEAN) on July 9, 1985[132] Three chapters of ASEAN are of particular interest because they "reflect the most comprehensive approach to viewing conservation problems that exist today."[133] Chapter II has provisions relating to the conservation of species and ecosystems, Chapter III focuses on ecological processes and Chapter IV addresses environmental planning for the protection of wildlife[134]

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125. *Id.* at 1090.

126. Batchelor, *supra* note 11, at 329.

127. *Id.* at 331.

128. Laura H. Kosloff & Mark C. Trexler, *The Convention on International Trade in Endangered Species: No Carrot, But Where's the Stick?*, 17 Envtl. L. Rep. (Envtl. L. Inst.) 10,222, 10,223 (1987).

129. The administrative structure of CITES consists of a Secretariat, established in art. XII; Management and Scientific Authorities, established in art. IX; and the Conference of the Parties, established in art. XI. CITES, *supra* note 104, at 1103-07.

130. LYSTER, *supra* note 1, at 277.

131. Agreement on the Conservation of Nature and Natural Resources, July 9, 1985, 15 ENVTL. POL. & LAW 64 (1985) [hereinafter ASEAN].

132. *Id.*

133. KISS & SHELTON, *supra* note 8, at 279.

134. *Id.*

While ASEAN is similar to other agreements regarding the establishment of protected areas, it has additional provisions "that call for safeguarding the ecological and biological processes essential to the function of the regional ecosystems, pools of genetic material and safe refuges for different species, especially endangered ones."[135] Although the implementation of the ASEAN Convention has yet to prove itself, this agreement has been cited by at least one author to serve not only as a model for international agreements, but also for national regulations.[136] Because it calls for conservation strategies, it addresses problems as a whole, rather than concentrating on each problem as if it is a separate and distinct problem independent of other concerns.

G. Interim Convention on Conservation of North Pacific Fur Seals[137]

The Interim Convention on Conservation of North Pacific Fur Seals (Interim Convention) replaced the treaty of 1911, which had expired in 1941.[138] The signature parties include Canada, Japan, the United States and the Soviet Union.[139] While the objective is the national exploitation of the fur seal's resource, the Interim Convention has an interesting characteristic concerning the sharing of royalties.[140] The Interim Convention addresses the form of hunting known as "pelagic hunting."[141] This type of hunting favors the state in whose territory the breeding grounds are located. Article IX(1) attempts to equalize the fur seal resource by requiring the United States and the Soviet Union, on whose ground the majority of breeding sites are, each to contribute to Japan and Canada, fifteen percent of the gross number of seals taken.

This provision is interesting in that it realizes that some countries have more of a given resource than another, but yet treats the resource as a shared possession which is to be used equitably by all. If the United States has voluntarily relinquished rights and revenue to seals located on its territory, might not Canada do the same regarding the wolf on border areas between the United States and Canada?

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135. *Id.* at 280.

136. *Id.* at 281.

137. Interim Convention on Conservation of North Pacific Fur Seals, Feb. 9, 1957, 314 U.N.T.S. 105 [hereinafter Interim Convention].

138. *Id.*

139. *Id.*

140. KISS & SHELTON, *supra* note 8, at 288-89.

141. Interim Convention, *supra* note 137, at art. VII; *see* KISS & SHELTON, *supra* note 8, at 288-89.

H. Convention for the Conservation of Vicuna

Argentina, Bolivia, Chile, Ecuador and Peru entered into the Convention for the Conservation of the vicuna on August 16, 1969[142] Its objective, to prevent the vicuna, a South American cameloid closely related to the llama hunted for its wool, from becoming extinct, was extremely successful.[143] The Convention not only prohibited international trade in the vicuna, but it also prohibited domestic exploitation and mandated the creation of reserves and breeding centers.[144]

Article I states:

> The Signatory Governments agree that the conservation of the vicuna provides an economic production alternative for the benefit of the Andean Population and commit themselves to its gradual use under strict governmental control, applying such technical methods for the management of wildlife as the competent official authorities may determine.

It appears that the governments of the contracting parties realize that they are taking away the livelihood of a substantial number of people by prohibiting the exploitation of the vicuna. Article I implies that these people will become part of the funded conservation program which will be implemented to protect the vicuna. Whether this is what was intended by Article I is not clear, but what is clear is that the quality of life of the Andean population will decline if they are forced to stop trading in the world's best wool, and they will become essentially subsidized governmental employees.

It would be interesting to examine the effects of this program upon the Andean population, but such an examination is beyond the scope of this article. Such an examination is relevant, however, in that when a species is protected, undoubtedly, certain members of the human species will be, from their perspective, negatively affected.

I. The Convention on the Conservation of Antarctic Marine Living Resources[145]

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142. LYSTER, *supra* note 1, at 88. Convention for the Conservation of Vicuna, concluded October 1969, Diaro Oficial (Chile) No. 28,504 (1973). Conventions entered into since this original include the Convention for the Conservation and Management of Vicuna, Oct. 16, 1979, [hereinafter The Lima Convention] and the bilateral Agreement Between the Bolivian and Argentine Governments for the Protection and Conservation of Vicuna, Feb. 16, 1981. *Id.* The Vicuna conventions are also listed in Appendix I of CITES. *Id.*

143. KISS & SHELTON, *supra* note 8, at 297.

144. *Id.*

145. Convention on the Conservation of Antarctic Marine Living Resources, May 20, 1980, 33 U.S.T. 3476 [hereinafter CCAMLR]; *see* KISS & SHELTON, *supra* note 8, at 302.

Article II(3)(c) of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) is the most developed and most significant provision regarding the management of ecosystems.[146] Its purpose is:

> prevention of changes or minimization of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem and of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.

Although this treaty recognizes the interdependency of all marine life and "implements a management strategy which focuses on 'a total conservation standard,' as opposed to a management plan centering solely on the 'harvested target species,'"[147] CCAMLR has been criticized for not stating its real objective. It has been said that the main objective of CCAMLR is to "regulate the taking of krill, the primary food source of baleen whales."[148] Thus, it has been argued that CCAMLR is "yet another way to ensure the survival of the whaling industry."[149]

CCAMLR, despite its wonderful Article II(3)(c) objectives, is flawed in that it allows a party to opt-out of any conservation measure if that party is "unable to accept the conservation measure."[150] Hopefully, the days of such "toothless" treaties are numbered. Unfortunately, some countries define conservation treaties as those that conserve their right to opt out rather than to conserve the resource that the treaty is intended to protect.

J. African Convention on the Conservation of Nature and Natural Resources[151]

The African Convention on the Conservation of Nature and Natural Resources (African Convention) evolved from one of the first international agreements to conserve wildlife, the Convention for the

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146. CCAMLR, 33 U.S.T. 3476.

147. Batchelor, *supra* note 11, at 335 (citing Martin H. Belsky, *Management of Large Marine Ecosystems: Developing a New Role of Customary International Law*, 22 SAN DIEGO L. REV. 733, 761 (1985)).

148. Meyers & Bennett, *supra* note 88, at 87.

149. *Id.*

150. *Id.*; CCAMLR, *supra* note 145, art. IX(6)(c).

151. African Convention on the Conservation of Nature and Natural Resources, Sept. 15, 1968, 1001 U.N.T.S. 3 [hereinafter African Convention].

Preservation of Wild Animals, Birds and Fish in Africa,[152] which was signed in London on May 19, 1900. The original signatories were the African colonial powers of France, Germany, Great Britain, Italy, Portugal and Spain. This early convention's objective was "to prevent the uncontrolled massacre and to ensure the conservation of diverse wild animal species in their African possessions which are useful to man or inoffensive."[153]

The original convention was revised by the 1933 Convention Relative to the Preservation of Fauna and Flora in their Natural State.[154] This revised convention was then superseded by the African Convention in 1968.[155] The objective of the convention was that parties "undertake to adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people."[156]

The African Convention provides for protection of wildlife both inside protected zones[157] and outside protected zones.[158] However, wildlife is only protected within those areas which are established by each state. There are no provisions regarding transient species and the particular problems such species face as a result of being protected one day and hunted the next depending on their locale. The African Convention has also been criticized for its lack of an effective administrative body to oversee its implementation.[159] Parties to the convention are not required to submit reports on implementation of the Convention, but instead are only required to submit reports "on the results achieved."[160]

K. The Convention on the Conservation of European Wildlife and Natural Habitats[161]

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152. Convention for the Preservation of Wild Animals, Birds and Fish in Africa, May 19, 1900, 94 B.F.S.P. 715.

153. *Id.* at pmbl.

154. Convention Relative to the Preservation of Fauna and Flora in their Natural State, Nov. 8, 1933, 172 L.N.T.S. 241.

155. African Convention, *supra* note 151.

156. *Id.* at art. II.

157. *Id.* at art. III(4).

158. *Id.* at arts. VI-VIII.

159. KISS & SHELTON, *supra* note 8, at 272; LYSTER, *supra* note 1, at 123.

160. LYSTER, *supra* note 1, at 123, (citing African Convention, *supra* note 151, at art. XVI(2)(b)).

161. Convention on the Conservation of European Wildlife and Natural Habitats, *opened for signature* Sept. 19, 1979, Europ. T.S. no. 104; U.K.T.S. no. 56 (1982), Cmd. 8738 [hereinafter Berne Convention].

The Convention on the Conservation of European Wildlife and Natural Habitats (Berne Convention) came into force on June 1, 1982.[162] The preamble states that the contracting parties:

> CONSIDERING the aim of the Council of Europe to co-operate with other States in the field of nature of conservation; . . .
> RECOGNIZING the essential role played by wild flora and fauna in RECOGNIZING that the conservation of wild flora and fauna should be taken into consideration by the governments in their national goals and programmes, and that international co-operation should be established to protect migratory species in particular; . . .
>
> HAVE AGREED as follows:[163]
> 1. The aims of this Convention are to conserve wild flora and fauna and their natural habitats, especially those species and habitats whose conservation requires the co-operation of several states, and to promote such co-operation.[164]
> 2. Particular emphasis is given to endangered and vulnerable species, including endangered and vulnerable migratory species.[165]

Chapter III of the Berne Convention addresses the protection of species. Species that are listed in the Second Appendix, including the wolf, are protected by Article 6 of Chapter III. Article 6 prohibits:

> a) all forms of deliberate capture and keeping and deliberate killing; b) the deliberate damage to or destruction of breeding or resting sites; c) the deliberate disturbance of wild fauna, particularly during the period of breeding, rearing and hibernation, insofar as disturbance would be significant in relation to the objectives of this Convention; d) the deliberate destruction or taking of eggs from the wild or keeping these eggs even if empty; e) the possession of and internal trade in these animals, alive or dead, including stuffed animals and any readily recognizable part or derivative thereof, where this would contribute to the effectiveness of the provisions of this Article.

Article 9 of the Berne Convention permits parties to make exceptions to Article 6 provisions "provided that there is no other satisfactory solution and that the exception will not be detrimental to the survival of the population concerned."[166] Exceptions are provided to

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162. *Id.*
163. *Id.* at pmbl.
164. *Id.* at art. 1(1).
165. *Id.* at art. 1(2).
166. *Id.* at art. 9(1). Finland, which is not a party to the convention, but which is negotiating with the EC regarding their rights and duties to the convention once they accede to the EC, has entered into a agreement which will allow it to continue to hunt the wolf on a strictly regu-

prevent serious damage to livestock and other forms of property, in the interests of public health and safety among other reasons.[167] Although this provision may appear to be subject to abuse, Article 9 requires that any party claiming one of these exceptions to submit reports every two years to the Standing Committee specifying details on the exceptions they invoke.[168]

Article 10 imposes additional duties on the parties "to co-ordinate their efforts for the protection of the migratory species specified in Appendices II . . . whose range extends into their territories."[169] In addition to this requirement, Article 11 states that the contracting parties shall "co-operate whenever appropriate and in particular where this would enhance the effectiveness of measures taken under other article of this convention."[170]

The Berne Convention has the most complete institutional structure of all regional conservation conventions.[171] Chapter VI of the Convention creates the Standing Committee. The duties of the Standing Committee include reviewing the provisions of the Berne Convention and proposed modifications, making recommendations to the contracting parties concerning measures taken pursuant to the Berne Convention, recommending means of keeping the public informed, recommending to the Committee of Ministers regarding non-member states invited to accede to the Berne Convention, and recommending ways of improving the Berne Convention.[172]

The Berne Convention is relatively young, and it remains to be seen whether it will live up to its drafted language. Regardless of whether the Berne Convention's implementation is effective, of the utmost importance is whether it addresses the interconnectedness of the entire world and places duties upon its contracting parties to conserve wildlife not only within their borders, but within the eco system that is shared by all.

IV. NORTH AMERICAN FREE TRADE AGREEMENT

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lated basis. *Sweden, Finland Secure Right to Prohibit Import of Nuclear Waste*, 16 Int'l Envtl. Rep. (BNA) 745 (1993).

167. Berne Convention, *supra* note 161, at art. 9(1).

168. *Id.* at art. 9(2).

169. *Id.* at art. 10(1).

170. *Id.* at art. 11(1)(a).

171. KISS & SHELTON, *supra* note 8, at 275.

172. Berne Convention, *supra* note 161, at art. 14(1).

On January 1, 1994 the North American Free Trade Agreement (NAFTA) became effective between the governments of Canada, Mexico and the United States.[173] Under pressure from concerned environmental groups, the three countries also entered into a Side Agreement which was intended to protect the environment.[174] The Side Agreement was drafted to address concerns from environmental groups fearing that the increase in trade between the contracting parties, among other things, would have an adverse effect upon the environment.

Part 1 of the Side Agreement states the parties' objectives as follows:

> [to] foster the protection and improvement of the environment in the territories of the Parties for the well-being of present and future generations; increase cooperation between the Parties to better conserve, protect and enhance the environment, including wild flora and fauna; strengthen cooperation on the development and improvement of environmental laws, regulations, procedures, policies and practices; enhance compliance with, and enforcement of, environmental laws and regulations . . . .[175]

These objectives, like those in other treaties, appear to reflect a sincere desire to achieve international cooperation and protection of the environment. The preamble of the Side Agreement to NAFTA also reflects this by stating that the contracting parties:

> RECOGNIZING the interrelationship of their environment; RECALLING their tradition of environmental cooperation and expressing their desire to support and build on international environmental agreements and existing policies and laws in order to promote cooperation between them; and CONVINCED of the benefits to be derived from a framework, including a Commission, to facilitate effective cooperation on the conservation, protection and enhancement of the environment in their territories; HAVE AGREED AS FOLLOWS . . . .[176]

However well intentioned these drafted provisions may have been, there is another provision in the preamble which dilutes most of

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173. North American Free Trade Agreement Between the Government of Canada, The Government of the United Mexican States, and The Government of the United States of America, Dec. 17, 1992 (entered into force Jan. 1, 1994) [hereinafter NAFTA].

174. North American Agreement on Environmental Cooperation Between the Government of Canada, the Government of the United Mexican States and the Government of the United States of America, Sept. 13, 1993, 32 I.L.M. 1480 (entered into force January 1, 1994) [hereinafter Side Agreement].

175. *Id.* at pt. 1, art. (1)(a), (c), (f) & (g).

176. *Id.* at pmbl.

their strength. That provision states that the contracting parties reaffirm "the sovereign right of States to exploit their own resources pursuant to their own environmental and development policies and their responsibility to ensure that activities within their jurisdictions or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[177]

Therefore, unless the killing of a wolf in Canada is deemed to be "damage to the environment" of the United States, which is unlikely, NAFTA does not provide any protection to the wolf in North America. The NAFTA side agreement is primarily concerned with enforcing existing domestic laws as they apply to the host country. However, if Canada has a law forbidding the killing of wolves, and Canada fails to enforce that law, or if the United States and Canada enter into an agreement which protects wolves along border areas, NAFTA may offer relief through its Commission for Environmental Cooperation.[178]

V. CONCLUSION: DEFINING INTERNATIONAL ECOSYSTEMS VS. DEFINING INTERNATIONAL BOUNDARIES

The United States has signified its commitment to the protection of ecosystems by entering into a number of the aforementioned international treaties. In addition to recognizing the need to protect flora and fauna through the signing of international treaties, the United States has also adopted such policies into its domestic laws. For example, the purposes of the ESA,[179] are:

> to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.[180]

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177. *Id.*

178. *Id.* at pt. 3.

179. One of the motivating factors behind the 1973 ESA was "pressure for the United States to set an example for the world in protecting endangered species." David K. Kaile, *Evolution of Wildlife Legislation in the United States: An Analysis of the Legal Efforts to Protect Endangered Species and the Prospects for the Future*, 5 GEO. INT'L ENVTL. L. REV. 441, 456 (1993) (citing STEVEN YAFFEE, PROHIBITIVE POLICY: IMPLEMENTING THE FEDERAL ENDANGERED SPECIES ACT 48 (1982)).

180. 16 U.S.C. § 1531(b) (1988). The treaties set forth in subsection (a) include: migratory bird treaties with Canada and Mexico; the Migratory and Endangered Bird Treaty with Japan; the Western Hemisphere Convention; the International Convention for the Northwest Atlantic Fisheries; the International Convention for the High Seas Fisheries of the North Pacific Ocean; and CITES. 16 U.S.C. § 1531(a)(4)(A)-(F) (1988).

The federal government is also empowered to encourage "foreign countries to provide for the conservation of . . . wildlife . . . including endangered species,"[181] and facilitate "the entering into of bilateral or multilateral agreements with foreign countries to provide for such conservation" to protect wildlife.[182]

Under the National Environmental Policy Act[183] (NEPA), federal agencies are directed to cooperate with other countries in achieving NEPA's goals.[184] All agencies are directed to "recognize the worldwide and long range character of environmental problems and where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of [humankind's] world environment."[185]

Despite the FWS's reintroduction efforts, which might not be successful[186] or may be hindered or stopped completely from pending lawsuits, if the United States and Canada do not enter into an agreement to ensure the wolf's repopulation in the Pacific Northwest, it may be "light years" before the wolf reaches the critical mass necessary to once again function in the capacity that is necessary.[187] The United States and Canada should therefore enter into an agreement that will ensure that the repopulation progresses in such a manner that humans, wolves and the ecosystem they share are all protected.[188]

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181. 16 U.S.C. § 1537(b)(1) (1988).

182. 16 U.S.C. § 1537(b)(2) (1988).

183. 42 U.S.C. §§ 4321-4370 (1988).

184. 42 U.S.C. § 4332(2)(F) (1988).

185. Joan R. Goldfarb, *Extraterritorial Compliance with NEPA Amid the Current Wave of Environmental Alarm*, 18 B.C. ENVTL. AFF. L. REV. 543, 555 (1991). The legislative history of NEPA also supports the basic principle that everything in the world environment is linked interactively. *Id.* at 556.

186. According to a National Park Service Biologist, reintroduced wildlife typically suffer from a mortality rate of 50% or more, which could dramatically lengthen reintroduction ef forts. *Majority of Wolves Won't Make it*, ROCKY MTN. NEWS, Oct. 26, 1994, at A19. *See also*, William A. Post, *Wolf Recovery Plan Denounced; Expert Says More Land Needed In West For Reintroduction*, ST. LOUIS POST-DISPATCH, Oct. 18, 1994, at B2 (a University of Montana biologist claims the current recovery plans fail to provide enough territory for the successful reintro duction because a large part of the territory is not suited for wolves).

187. Mitchell, *supra* note 50, at 28 (citing Steve Fritts, U.S. Fish and Wildlife Service Wolf Recovery Coordinator for the Northwest). The Canadian Provinces report the following number of wolves killed in 1992 from hunting and/or trapping: Alberta-100; British Columbia-between 600 and 700; Saskatchewan-225; and Manitoba-250. Although these are significant numbers, it is not to be construed that the wolf is not repopulating in a timely fashion solely because of Canadian hunters.

188. *See*, James Duffus, official in the GAO Resources, Community, and Economic Development Division, testifying before the House Natural Resources Subcommittee on Oversight and Investigation, the House Agricultural Subcommittee on Specialty Crops and Natural Resources, and the House Merchant Marine and Fisheries Subcommittee on Environment and Natural Resources, September 20, 1994 ("since there is no government-wide requirement to

Any agreement that the two countries would enter into would have to consider that the wolf was purposefully eliminated in the United States and was not the victim of negligent environmental degradation. Thus, any financial loss to Canada's livestock owners, hunters and outbackers would have to be absorbed by the United States. Such an arrangement is only fair; Canada has a healthy wolf population and should not be forced to bear a portion of the burden for the United States's past shortsightedness and recklessness.

Such an arrangement would incorporate language to the effect that the continent is a complete ecosystem and, when possible, should be managed as such. Such a concept has been roughly defined and is referred to as the "Crown of the Continent Ecosystem."[189] Individuals in private organizations have even proposed an interagency Crown of the Continent Board and Ecosystem Center.[190] This approach "can provide a framework for describing, understanding, and addressing ecosystems."[191]

There are certain characteristics that are common to most ecosystem-based management systems. These characteristics would have to be considered and reflected in any agreement between Canada and the United States. The following characteristics have proven to be successful approaches in ecosystem management and would provide protection of the wolf in North America:

> [approaches which] describe parts, systems, environments and their interactions[;] are holistic, comprehensive, and transdisciplinary[;] include people and their activities in the ecosystem[;] describe system dynamics through concepts such as stability and feedback[;] define the ecosystem naturally, for example bioregionally instead of arbitrarily[;] look at different levels and/or scales of system structure, process, and function[;] recognize goals and take an active, management orientation[;] incorporate stakeholder and institutional factors in the analysis[;] use an anticipatory, flexible research and planning process[;] entail an ethics of quality, well-being, and integrity[;] and recognize systemic limits to action—defining and seeking sustainability.[192]

A successful ecosystem management approach should also "strive to keep away from the factors that dominate urban planning which

maintain or restore the health of ecosystems as such, the practical starting point for ecosystem management will have to be to maintain or restore the minimum level of ecosystem health necessary . . . .").

189. Slocombe, *supra* note 11, at 614.

190. *Id.*

191. *Id.* at 619.

192. *Id.*

are politics, power, and equity."[193] However, not all human factors should be ignored, for in order for the ecosystem to be effectively maximized there must be an "understanding of local and regional economies, cultures, societies, and their points of interaction with the natural environment."[194]

A starting point for the United States and Canada on the road to drafting and implementing a wolf protection treaty would be to "collect, organize, and present a range of information in diverse forms accessible to many different people."[195] This assimilation of information could be in the forms of environmental impact statements, which are required by both countries for projects under federal jurisdiction.[196]

Any agreement entered into must "be adaptable to be able to respond to new issues and problems as they arise."[197] It also needs "to facilitate development of consensus on goals and objectives and provide for ongoing evaluation and feedback on management actions."[198] Varied existing programs and institutions need to be integrated "so that an effective single locus is created for planning and management activities and decision making."[199]

Once a comprehensive and effective program is established there must be an administrative structure in place to implement and monitor it. International treaties such as the Western Hemisphere Convention and the African Convention "have proved relatively ineffectual because, among other things, none of them established a system of administration to monitor and oversee their enforce-

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193. *Id.*

194. *Id.* at 621.

195. *Id.* at 622.

196. Goldfarb, *supra* note 185 (citing *Parliament Gives Approval in Principle to Canadian Environment Assessment Bill*, 13 Int'l Envtl. Rep. (BNA) 467 (1990)).

197. Slocombe, *supra* note 11, at 622. This is referred to as adaptive management, which is summarized by a recent National Research Council-National Academy of Sciences study:

> Adaptive planning and management involve a decision making process based on trial, monitoring, and feedback. Rather than developing a fixed goal and an inflexible plan to achieve the goal, adaptive management recognizes the imperfect knowledge of interdependencies existing within and among natural and social systems, which requires plans to be modified as technical knowledge improves . . . .

Tarlock, *supra* note 12, at 1140 (quoting COMMITTEE ON RESTORATION OF AQUATIC ECOSYSTEMS, NATIONAL RESEARCH COUNCIL, RESTORATION OF AQUATIC ECOSYSTEMS: SCIENCE, TECHNOLOGY, AND PUBLIC POLICY 357 (1992)).

198. Slocombe, *supra* note 11, at 622.

199. *Id.*

ment."[200] Such "sleeping treaties" have not had as much impact as they might have had if given the proper administration framework.[201]

The following is draft legislation which, if accepted by the United States and Canada, would ensure the wolf's repopulation into the United State's lower forty-eight states and at the same time protect the humans that share the wolf's ecosystem.[202]

THE WOLF CONVENTION[203]

The Government of Canada and the Government of the United States of America:

CONVINCED of the importance of the conservation, protection and enhancement of the environment in their territories and the essential role of cooperation in these areas in achieving a healthy and complete ecosystem for the well-being of present and future generations of all species;
RECOGNIZING the interrelationship of their environments;
RECOGNIZING that wild animals, including the wolf, are an irreplaceable part of the earth's natural system which must be conserved for the good of humankind;
RECOGNIZING the essential role played by the wolf in maintaining biological and ecological balances;
CONVINCED of the benefits to be derived from a framework, including a Commission, to facilitate effective cooperation on the conservation protection and enhancement of the environment and ecosystems shared between their territories;

HAVE AGREED AS FOLLOWS:

ARTICLE I

1. The aim of this Convention is to ensure the repopulation of the wolf in the United State's lower forty-eight states by establishing "neutral zones" along the border of Canada and the United States where the wolf will be protected.

2. Such "neutral zones" will protect migrating or roaming wolves coming from the United States into Canada thus ensuring their safe return to the United States.

ARTICLE II

200. Batchelor, *supra* note 11, at 336.
201. *Id.*
202. The sooner that an agreement is reached, the better off the wolf will be, for the wolf and its supporters could once again find themselves facing an unfriendly administration in Washington.
203. Some of the language in The Wolf Convention has been adopted by the author from previously discussed conventions.

1. The wolf is an essential part of an ecosystem shared between the two Signatory Parties. As such, both Parties agree that safeguarding the ecological and biological processes essential to the function of their shared ecosystem, pools of genetic material and refuges for different species is of primary concern.

2. Each Party shall take appropriate action to protect the ecosystems of which wolves are a part, with special attention to habitat components such as denning and feeding sites and migration patterns.

ARTICLE III

1. The ecosystem that this treaty intends to protect shall be defined in accordance with completed environmental ecosystem statements and shall include all lands described in such.

2. The environmental ecosystem statements, in addition to defining the complete North American ecosystem will define "neutral zones" along the border of the Contracting Parties where the wolf can roam where the wolf will be protected.

3. There shall be an environmental impact statement prepared individually by each party regarding the effects of the Wolf Convention upon their country. In addition, there shall be a joint environmental ecosystem statement, prepared pursuant to Article III(1), which ignores national borders and addresses the needs of the ecosystem as a whole.

4. Such environmental ecosystem statement shall describe parts, systems, environments and their interactions and shall be holistic, comprehensive, transdisciplinary and include people and their activities in the ecosystem, particularly local and regional economies, cultures, societies and their point of interaction with the natural environment.

ARTICLE IV

The Parties Have Agreed as Follows:

1. The environmental ecosystem statements will define all areas 200 miles north of the United States/Canadian border as "neutral zones." The wolf shall be protected in these areas marked as "neutral zones." All wolves in the "neutral zones" shall be protected as completely as possible, and their hunting, killing, capturing, possession and or taking shall be allowed only within the permission of the Wolf Commission established in Article VI and only after substantial evidence is presented which clearly supports such decision and provided that there is no other satisfactory solution and that the exception will not be detrimental to the repopulation efforts undertaken by the Contracting Parties.

2. The Parties realize that the livelihood of livestock owners and business people may be adversely affected by the creation of such "neutral zones" and agree to reimburse any and all affected Canadian citizens as follows:

Livestock owners:
Any livestock kill within the "neutral zone" that is attributable to a wolf shall be reimbursed by the Wolf Commission at the market rate for such animal. Such reimbursement shall be passed to the affected livestock owner no later than 60 days after the kill is reported. This Article, like all the Articles in this Convention, shall be reviewed annually by the Wolf Commission and shall be modified as appropriate.

Small Businesses:
The Contracting Parties realize that the creation of the "neutral zone" will adversely affect certain commercial enterprises which hunters[204] support in the "neutral zones."[205] The Contracting Parties thus agree to hear claims regarding those small business parties who feel they have been adversely affected by the creation of such zones. The United States agrees to reimburse, in a timely fashion, any and all such parties whose claims have been approved by the Wolf Commission.

ARTICLE V.

1. Parties agree that they have the duty not to take any deliberate measures which might damage directly or indirectly the wolf which this treaty purports to protect. Such damage includes exploitation of wildlife, threats from toxic substances and modification of wildlife habitats as well as others.

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204. Hunters will be adversely affected in that some will have to drive further to hunt wolves than they previously had to. Such a burden does not seem overbearing. The "neutral zones" will be 200 miles from the United States/Canadian border thus increasing the amount of time required for a hunter to reach wolf hunting grounds by a few hours. Such a minimal burden should not be compensable. Hunters, of all people, should realize how essential the wolf is to an ecosystem. Wolves in fact increase the quality of the animals that are available to the hunters by killing the sick and diseased of the herd thus ensuring that only the strongest and fittest reproduce.

205. The losses that small businesses within the "neutral zones" will feel due to the decrease in hunters frequenting their stores is a problem which may carry extreme burdens. However, it is also possible that no burdens will be felt at all because hunters may simply decide to hunt other species rather than drive an extra few hours to hunt wolves. Studies would have to be done which would compare the revenue from pre "Wolf Convention" years to post "Wolf Convention" years with the United States reimbursing the businesses for lost revenue. Additionally, while hunters and the small businesses that they support may be adversely affected by the creation of "neutral zones," outbackers will probably see an increase in business as tourists pay to take hikes where they can hear the howl of the wolf.

ARTICLE VI[206]

1. Realizing that the value of any cooperative initiative is in its follow-up and implementation, this Article creates what is to be known as "The Wolf Commission." The goal of the Wolf Commission is to facilitate development of consensus on goals and objectives and provide for ongoing evaluation and feedback on management actions.

2. The Wolf Commission shall have the sole power to receive and investigate complaints from the parties and from citizens concerning violations of the Convention, enforcement deficiencies by a party and other matters related to the mandate of The Wolf Convention.

3. The Commission shall be comprised of a government appointed environmental minister from both the United States and Canada. Each province and state affected by the Convention shall have one representative to the end that representation is equal between provinces and states.

4. The Commission shall additionally be comprised of an equal number of citizens from each country to the extent that they are equal in number to the government representatives. These citizens shall equally represent each state and province affected by the treaty and shall be elected by each such province or state. The primary role of this group is to carry out the work of the commission that is best done by an independent group. In addition, this group would coordinate citizen input into the activities of the Convention and increase public participation in the implementation of the Convention.

6. A Secretariat shall be established to enable the Commission to carry out its mandate. A well-staffed secretariat, with equal representation from each country, is responsible for the Convention's daily operations and will assist the environmental ministers' and citizens' boards in successfully fulfilling their roles. The Secretariat will also provide the institutional research and technical capacity for the Convention.

7. The ministers, citizens and secretariat shall meet as needed, but at least twice annually to review the work and recommendations of the citizen's advisory board, as well as the day-to-day operations of the commission.

8. There shall be public access to all documents, data and procedures of the Commission as well as adequate and effective channels

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206. Many of the suggestions for the proposed "Wolf Commission" have been adopted from Janine Ferretti's suggestions for a North American Commission on the Environment regarding NAFTA. Janine Ferretti, *Elements of an Effective North American Commission on the Environment*, 16 Int'l Envtl. Rep. (BNA) 311 (1993).

for communication and dialogue between the public and the Commission.

STEMMING THE TIDE: A PLEA FOR NEW EXOTIC SPECIES LEGISLATION

STEVEN A. WADE*

> [W]hat havoc the introduction of any new beast of prey must cause in a country, before the instincts of the indigenous inhabitants have become adapted to the stranger's craft or power.[1]

I. INTRODUCTION

Since 1492, a variety of exotic species[2] has been introduced[3] into the United States—many intentionally, some accidentally.[4] Although it would be nearly impossible to determine the precise number of introductions, one recent estimate placed the number of self-sustaining exotic species populations at about 4,500.[5] Of these populations, 122 have been officially recognized as "harmful."[6] These non-native species affect the native species and ecosystems of the United States profoundly.[7] Nowhere is this more apparent than in the Hawaiian Islands, where there are as many exotic plant species as

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1. CHARLES DARWIN, THE VOYAGE OF THE BEAGLE 401 (Anchor Books 1962) (1839).

2. In this paper, I shall use the terms exotic, nonindigenous, and non-native interchangeably. *See infra* text accompanying notes 105-08 for various definitions of exotic species.

3. A species is introdu ced when it is accidentally or intentionally moved from one place to another by humans. Christopher C. Kohler, *Strategies for Reducing Risks from Introductions of Aquatic Organisms*, FISHERIES, Mar.-Apr. 1986, at 2, 2. Therefore, the arrival of a species into a new ecosystem by a natural process (e.g., the wind) is not an introduction.

4. U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, HARMFUL NON-INDIGENOUS SPECIES IN THE UNITED STATES at 5-6 (1993) [hereinafter OTA REPORT]; Robert Devine, *Botanical Barbarians*, SIERRA, Jan.-Feb. 1994, at 50, 54. Perhaps the most literary of intentional introductions involved a Shakespeare enthusiast who decided to introduce every bird mentioned by the bard into Central Park. Around the turn of the century, this erudite New Yorker is said to have introduced the starling, which has become a troublesome nonindigenous species throughout the United States. John Ross, *Zebra Mussels: Tiny Invaders with Gigantic Clout*, SMITHSONIAN, Feb. 1994, at 42.

5. OTA REPORT, *supra* note 4, at 3.

6. *Id.* at 20.

7. *See, e.g.*, Devine, *supra* note 4, at 53 ("We must make no mistake: we are seeing one of the great historical convulsions in the world's fauna and flora." (quoting British ecologist Charles Elston)).

native plant species.[8] Exotic species diminish native species diversity,[9] harm ecosystems,[10] and cost U.S. industries billions of dollars.[11]

With the current problems caused by the zebra mussel,[12] the public has only recently begun to realize the potential impact of nonindigenous species.[13] Moreover, the number of introductions is quite likely to continue at its present level, if not at an increased level, due to expanding world trade.[14]

Thus far, even though the National Park Service recently ranked exotic plant species as the greatest threat and non-native fauna as the fourth greatest threat to U.S. National Parks, the federal government has failed to respond adequately to this challenge.[15] Moreover, the federal government is in the untenable position of introducing certain

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8. *Id.*

9. *See id.* at 53-54. Due to the lack of natural predators, exotic species can sometimes outcompete all native species. David J. Bederman, *International Control of Marine "Pollution" by Exotic Species*, 18 ECOLOGY L.Q. 677, 681 (1991). *See also* Ross, *supra* note 4, at 50 (noting that zebra mussels in Lake St. Clair have caused the extinction of 18 species of native clams since 1986). The introduced species is usually only comprised of a few individuals, so the exotic species itself lacks genetic diversity. *Id.* Of course, some non-native species reduce biodiversity by preying upon native species. Julianne Kurdila, Note, *The Introduction of Exotic Species into the United States: There Goes the Neighborhood!*, 16 B.C. ENVTL. AFF. L. REV. 95, 100-01 (1988). Exotic species pose other threats to native fauna: introduction of new diseases, parasites, and bacteria. *Id.* at 100-01; Bederman, *supra*, at 682.

10. *See* Devine, *supra* note 4, at 54. Exotic plant species can change ground temperature, alter the "pace of erosion," and impact the rate nitrogen is recycled in the soil. *Id.* For example, one scientist fears the zebra mussel is undermining the whole aquatic ecosystem in the Great Lakes by eating the phytoplankton which form the basis of the food chain. Ross, *supra* note 4, at 48. The saltwater snail, or periwinkle, which has shaped the New England coast by stripping away seaweed which allows sediments to be washed away is another example. *Id.* at 42-44.

11. Ross, *supra* note 4, at 41. Efforts to control the zebra mussel will cost the United States $5 billion by 2000. *Id.* The Office of Technological Assessment estimates that exotic "weeds" cost U.S. farmers $3.6 to $5.4 billion per year in crop loss, comprise 50% to 75% of all "weeds," and lead to pesticide use of $1.5 to $2.3 billion. Devine, *supra* note 4, at 53. During fiscal year 1993, the United States Department of Agriculture spent roughly $19 million to combat exotic tree "pests." Faith Thompson Campbell, *Exotic Pests of American Forests*, WILD EARTH, Winter 1993-94, at 32. *See also* OTA REPORT, *supra* note 4, at 5 (noting that just 79 nonindigenous species alone caused $97 billion in "harmful effects" from 1906 to 1991).

12. Ross, *supra* note 4, at 41-48. Zebra mussel veligers (microscopic larvae) arrived in the United States in 1985 or 1986 in the ballast tank of a ship from an Eastern European port. *Id.* at 41-42. On December 14, 1989, the zebra mussel clogged the in-take valve to a municipal waterworks in Monroe, Michigan, temporarily leaving the town without water. Through 1992, the damages caused by the zebra mussel cost the Monroe waterworks $790,000. *Id.* at 47-48.

13. *See, e.g., id.*

14. OTA REPORT, *supra* note 4, at 15.

15. *See id.* at 32-33. The National Park Service only allocates 2% of its budget to research, management, and control of nonindigenous species. Nonetheless, of all federal agencies, the National Park Service is generally regarded as having the strictest regulations and most extensive programs concerning exotic species. *Id.* at 33.

exotic plant species such as sweet clover and alfalfa,[16] while simultaneously seeking the elimination of other exotic plant species through the Federal Noxious Weed Act.[17] Similarly, the federal government protects exotic species such as the longhorn steer and wild horses and burros[18] while attempting to eradicate the zebra mussel through the Nonindigenous Aquatic Nuisance Protection and Control Act of 1990.[19]

To avoid such inconsistencies, the federal government must adopt a comprehensive approach for preventing the introduction of non-native species and controlling or eradicating those that have become established. Therefore, Congress should enact legislation a) creating a federal agency empowered to implement the federal efforts to control exotic species, b) prohibiting the importation or introduction of all exotic species unless the party seeking to do so can show the species will not harm the ecosystem it will be introduced into, and c) requiring the importing/introducing party to conduct a structured decision-making analysis similar to an environmental impact statement (EIS).[20]

This comment will review the principal U.S. legislation affecting nonindigenous species. In Part III, this comment will propose a basic U.S. policy toward nonindigenous species. In Part IV, this comment will describe the primary methods of prevention, control, and eradication of non-native species. Finally, this comment will propose federal legislation to comprehensively address the problems exotic species pose.

II. LEGISLATIVE EFFORTS TO ADDRESS EXOTIC SPECIES IN THE UNITED STATES[21]

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16. *Id.* at 187.
17. 7 U.S.C. §§ 2801-2814 (1988).
18. Wild Free-Roaming Horses and Burros Act, 16 U.S.C. §§ 1331-1340 (1988).
19. 16 U.S.C. §§ 4701-4751 (Supp. 1992).
20. *See infra* text accompanying notes 203, 205-10 for an explanation of an EIS-type structured decision-making analysis.
21. This section will not consider state law because state law has been marked by both drastically varied definitions of what constitutes an exotic species and what methods should be used in preventing an introduction. *See generally* Kurdila, *supra* note 9, at 107-11. Moreover, states are ill-suited to handle this problem because one state cannot prevent a neighboring state from introducing an unwanted species. *Id.* at 96, 109-10. For instance, Missouri was unable to prevent Arkansas from introducing a carp species which later infested Missouri's water. *Id.* Consequently, a basic premise of this comment is that the federal government is best situated and best able to prevent the introduction of exotic species and has the funding and expertise to aid states in their efforts to control and eradicate nonindigenous species.

> The current federal framework is a largely uncoordinated patchwork of laws, regulations, policies, and programs. Some focus on narrowly drawn problems. Many others peripherally address NIS [nonindigenous species]. In general, present Federal efforts only partially match the problems at hand.[22]

Over the last century, Congress has passed a variety of statutes addressing the environment, wildlife, and natural resources.[23] On a few occasions, some of these statutes have addressed nonindigenous species.[24] Likewise, the Executive Branch has addressed nonindigenous species in Executive Order 11,987.[25] This comment first describes the Lacey Act,[26] its amendments, and its regulations. Next, it briefly discusses the Federal Noxious Weed Act of 1974.[27] Third, it considers Executive Order 11,987.[28] Finally, it analyzes the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990.[29]

A. *The Lacey Act*[30]

The Lacey Act of 1900[31] was the first U.S. legislation to ban the importation of non-native species.[32] Specifically, the Lacey Act made it unlawful for any person to import undesirable species such as the starling, fruit bat, mongoose and "such other birds or animals as the Secretary of Agriculture may from time to time declare injurious to the interest of agriculture and horticulture."[33] Thus, the original intention behind the Lacey Act was to safeguard agriculture.[34] Restricting importation of exotic species led to fewer nonindigenous introductions, but limiting non-native introductions was merely a positive side effect of the Act's main goal of protecting agriculture from exotic pests.[35] In 1926, the Black Bass Act[36] supplemented the

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22. OTA REPORT, *supra* note 4, at 163. The quoted language is a formal finding by the OTA.
23. *See, e.g., infra* notes 26-29.
24. *See, e.g., infra* notes 26-29.
25. Exec. Order No. 11,987, 3 C.F.R. 116 (1976-1980), *reprinted in* 42 U.S.C. § 4321 (1988).
26. 18 U.S.C. § 42 (1988).
27. 7 U.S.C. §§ 2801-2814 (1988).
28. 42 U.S.C. § 4321 (1988).
29. 16 U.S.C. §§ 4701-4751 (Supp. 1992).
30. Ch. 553, 31 Stat. 187 (1900) (current version at 18 U.S.C. § 42 (1988)).
31. *Id.*
32. Bederman, *supra* note 9, at 691.
33. 18 U.S.C. § 42 (1988).
34. MICHAEL J. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 115 (1983).
35. *Cf.* Bederman, *supra* note 9, at 691 (explaining that the Lacey Act pursued its primary goal of enhancing "the powers of the Agricultural Department" by restricting the importation of exotic species).
36. 16 U.S.C. §§ 851-856 (1976) (repealed 1981).

Lacey Act by adding fish to the list of covered organisms.[37] Together, these acts did not represent a concerted federal effort to control the importation of foreign wildlife; rather, they were merely "a tool for supporting state wildlife laws."[38] Thus, the Lacey Act left most decisions regarding intentional introduction of species to the discretion of state legislatures.[39]

In 1981, Congress amended the Lacey Act and consolidated the Black Bass Act into it.[40] Consequently, the scope of the Lacey Act was substantially broadened: the amendments made it illegal to import any foreign wild animal, and some plants, without a special permit.[41] As a result of this broad language, the Lacey Act now applies to more species than any other environmental law.[42] By amending the Lacey Act, Congress also attempted to make the Act more effective by increasing the penalties for violating the Act[43] and by authorizing the granting of awards to people giving the federal government useful information.[44]

The Lacey Act employs a "black list" approach concerning which species may be introduced.[45] That is, excluding species the Act specifically declares are injurious, the U.S. Fish and Wildlife Service (FWS) must determine whether a species is harmful before requiring a special permit for its importation.[46] In 1973, however, the Department of the Interior had proposed regulations which employed "white list" screening.[47] Under the white list approach, all species were declared

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37. *Id. See generally* Kurdila, *supra* note 9, at 103 (noting that prior to the passage of the Black Bass Act, there was some confusion as to whether the Lacey Act covered any species that were not "game birds" or "fur bearing mammals").

38. Kurdila, *supra* note 9, at 104.

39. OTA REPORT, *supra* note 4, at 24.

40. Pub. L. No. 97-79, 95 Stat. 1073 (1981) (codified as amended at 16 U.S.C. §§ 3371-3378 (1988)). The Lacey Act was also amended in 1935 and 1949. For a discussion and analysis of these earlier amendments, *see* BEAN, *supra* note 34, at 108-13.

41. 16 U.S.C. § 3372(a) (1988).

42. *Cf.* Bederman, *supra* note 9, at 691 ("The Lacey and Black Bass Acts were called `in many ways [the United States'] most important wildlife laws since they affect the thousands of species subject to State and foreign laws.'") (quoting SENATE COMM. ON ENV'T AND PUB. WORKS, LACEY ACT AMENDMENTS OF 1981, S. REP. NO. 123, 97th Cong., 1st Sess. 2 (1981), *reprinted in* 1981 U.S.C.C.A.N. 1748, 1749).

43. 16 U.S.C. § 3373(a),(d) (1988). The civil penalties authorized by the Act are $10,000 per violation and criminal penalties of a maximum $20,000 fine and/or imprisonment of up to five years per offense. *Id.*

44. 16 U.S.C. § 3375(d) (1988) ("the Secretary . . . shall pay . . . a reward to any person who furnishes information which leads to an arrest, criminal conviction, civil penalty assessment, or forfeiture of property . . . .").

45. 50 C.F.R. § 16.11 (1993). See OTA REPORT, *supra* note 4, at 22 for discussion of the black list approach; see also Kurdila, *supra* note 9, at 104; Bederman, *supra* note 9, at 693.

46. 50 C.F.R. § 16.11 (1993).

47. *See* BEAN, *supra* note 34, at 116. The 1973 proposed regulations were the Department of the Interior's first attempt to implement its authority under the Lacey Act. *Id.*

"injurious," but a species could be imported if the species was shown to pose a "low risk."[48] After much resistance from the pet trade, scientific researchers, and zoos,[49] the Department of Interior eventually abandoned these proposed regulations.[50]

Overall, the Lacey Act has been ineffective in preventing the importations, and subsequent introductions, of exotic species.[51] First, the Act fails to address unintentional or accidental importation of species. Second, the black list approach is inherently reactive because FWS cannot determine if an introduced species is harmful until the species has already established itself.[52] Third, the length of the listing process, coupled with the lack of emergency provisions, eliminates the possibility of FWS quickly banning the further importation of a harmful non-native species.[53] Fourth, the Act lacks a comprehensive scheme for regulating the movement of banned species through interstate commerce.[54] Last, FWS efforts to enforce the Act have been piecemeal.[55] Thus, the Lacey Act is only partially effective in preventing the introduction of exotic species.

B. The Federal Noxious Weed Act of 1974[56]

The Federal Noxious Weed Act[57] bans

> [t]he importation or distribution . . . of noxious weeds . . . which interfere with the growth of useful plants, clog waterways and interfere with navigation, cause disease, or have other adverse effects upon man or his environment and therefore is *detrimental to the agriculture and commerce of the United States and to the public health.*[58]

Noxious weeds are defined as plants of "foreign origin, [which are] new to or not widely prevalent in the United States" and which have

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48. *Id.*

49. OTA REPORT, *supra* note 4, at 24. Not surprisingly, the OTA recently concluded that the nursery, pet, aquaculture, and agriculture industries oppose any further regulation of the introduction of nonindigenous species. *Id.* at 18.

50. BEAN, *supra* note 34, at 116-17. After dropping the proposed regulations, the Department of the Interior asked for a clarification of its authority from Congress, which it still has not received. *Id.* at 117.

51. The Act has several significant loopholes. For example, the criminal pen alties do not apply if the value of the exotic species involved is $350 or less. 16 U.S.C. § 3373(d)(1)(B) (1988).

52. Bederman, *supra* note 9, at 693; OTA REPORT, *supra* note 4, at 22.

53. *See* OTA REPORT, *supra* note 4, at 22. In fact, only six species were added to the "list" between 1966 and 1988. *Id.*

54. *Id.* at 22.

55. *Id.* The OTA was unable to assess FWS and other agencies' efforts in implementing the Lacey Act due to a lack of either performance standards or routine evaluations. *Id.* at 164.

56. 7 U.S.C. §§ 2801-2814 (1988).

57. *Id.*

58. 7 U.S.C. § 2801 (1988) (emphasis added).

an adverse economic impact on "fish or wildlife resources."[59] The Act authorizes the Secretary to quarantine plants before they can enter the United States,[60] to use emergency measures,[61] and to impose criminal penalties of a $5,000 fine and/or one year imprisonment.[62]

Although the Act could be read as granting the Secretary of Agriculture broad power to ban any exotic plant that is harmful to the environment, in reality, the Act is only used to eliminate agricultural pests.[63] Nonetheless, the Act could be used to more widely address nonindigenous plant species if the Secretary chose to do so.[64]

C. Executive Order 11,987[65]

In 1977, President Carter signed Executive Order 11,987[66] which requires executive agencies to "restrict the introduction of exotic species into the natural ecosystems on [the federal] lands and waters" under each agency's jurisdiction.[67] This Order defines introduction as "the release, escape, or establishment of an exotic species into a natural ecosystem."[68] "Exotic species" are defined as "all species of plants and animals not naturally occurring, either presently or historically, in any ecosystem of the United States."[69]

Executive Order 11,987 covers more exotic species than any other federal statute, rule, or regulation because plants as well as animals are within its scope.[70] In fact, this Order even directs federal agencies to restrict the exportation of a potentially exotic U.S. species to another country.[71] Unfortunately, this Order "does not apply to the introduction of any exotic species . . . if the Secretary of Agriculture or the Secretary of the Interior finds that such introduction . . . will not have an adverse effect on natural ecosystems."[72] By placing the burden upon federal agencies to determine whether the exotic species will be harmful, the Order undermines the clear policy against exotic

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59. 7 U.S.C. § 2802(c) (1988).
60. 7 U.S.C. § 2804 (1988).
61. 7 U.S.C. § 2805 (1988).
62. 7 U.S.C. § 2807 (1988).
63. *See* BEAN, *supra* note 34, at 118.
64. *See id.*
65. Exec. Order No. 11,987, 3 C.F.R. 116 (1976-1980), *reprinted in* 42 U.S.C. § 4321 (1988).
66. *Id.*
67. 42 U.S.C. § 4321(2)(a) (1988).
68. 42 U.S.C. § 4321(1)(b) (1988).
69. 42 U.S.C. § 4321(1)(c) (1988). *See infra* text accompanying notes 118-21 for a discussion of the difficulties created by this definition.
70. *See* BEAN, *supra* note 34, at 118.
71. 42 U.S.C. § 4321(2)(c) (1988).
72. 42 U.S.C. § 4321(2)(d) (1988).

introductions and, in essence, recreates the black list approach of the Lacey Act.[73]

Once again, this federal effort has not lived up to its potential. First, despite an explicit mandate to enact regulations, the Secretary of the Interior has never done so.[74] Consequently, federal agencies have ignored this potential watershed in the treatment of nonindigenous species.[75] Second, even if fully implemented, this Order would have a limited impact on exotic species. The Order only has the status of binding law on federal agencies, so state agencies and private individuals can ignore it.[76] Furthermore, the Order would only regulate the introduction of species onto federal land.[77] Although the Order is a noteworthy attempt to address the problem of non-native introductions, Executive Order 11,987 has failed to have any significant effect on the introduction and eradication of exotic species.

D. The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990[78]

The Nonindigenous Aquatic Nuisance Prevention and Control Act[79] embodies a more significant approach to preventing and eliminating introduced species.[80] The Act is specifically designed to address the zebra mussel infestation of the Great Lakes.[81] However, its potential scope is broad: one purpose of the Act is "to develop and carry out environmentally sound control methods to prevent, monitor and control unintentional introductions of nonindigenous species . . .

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73. *See supra* notes 45-46 and accompanying text for an explanation of the black list approach.

74. BEAN, *supra* note 34, at 118; Kurdila, *supra* note 9, at 103.

75. Bederman, *supra* note 9, at 693. *See also* OTA REPORT, *supra* note 4, at 166 (a formal finding by OTA).

76. Bederman, *supra* note 9, at 693.

77. *See* 42 U.S.C. § 4321(2)(c) (1988). Of course, regulating federal lands is itself significant because such lands comprise roughly 35% of the United States and most of the important wildlands are on federal lands.

78. 16 U.S.C. §§ 4701-4751 (Supp. 1992).

79. *Id.*

80. *See* Bederman, *supra* note 9, at 694.

81. *See generally* Bederman, *supra* note 9, at 708-09. In the Act, Congress legislatively finds that the zebra mussel was accidentally introduced into the Great Lakes through the ballast tanks of a ship, is expected to infest two-thirds of the freshwater bodies in the continental United States, will cause up to $5 billion in control efforts by 2000, and will have a severe impact on biodiversity. 16 U.S.C. § 4701(a) (Supp. 1992). The Act goes on to state that it is designed to control the zebra mussel. 16 U.S.C. § 4701(b)(2) (Supp. 1992). For a general description of the effect of the zebra mussel on the Great Lakes *see generally* Ross, *supra* note 4.

."[82] Thus, this Act could complement the Lacey Act by regulating the unintentional introduction of species.[83]

The Act requires the promulgation of rules designed to eliminate the introduction and spread of exotic species into the Great Lakes through the ballast water of ships.[84] The Act also creates the National Ballast Water Control Program to determine the best method to prevent further introductions.[85] Most notably, the Act provides for the creation of an Aquatic Nuisance Species Task Force (the Task Force),[86] which is assigned the task of developing a program to prevent the introduction and dispersal of nonindigenous aquatic species.[87] Significantly, the Act also requires the Task Force "to monitor, control and study such species," as well as release information about non-native aquatic species.[88] Congress indicated its commitment to the Act by authorizing appropriations to implement its provisions.[89] Thus, perhaps more than any other federal effort in this area, the Act could have a significant effect on the non-native species problem.[90]

The Office of Technology Assessment has recently criticized the Nonindigenous Aquatic Nuisance Prevention and Control Act on several fronts.[91] First, the Act does not provide the Task Force with detailed guidelines or even general parameters.[92] Second, the Task Force is further weakened by the differing agency cultures and perspectives of its constituent members.[93] As a result, the Task Force struggled through a period of administrative start up delays.[94] Third, although funding is authorized, Congress has been slow in

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82. 16 U.S.C. § 4701(b)(3) (Supp. 1992).

83. See *supra* text accompanying notes 30-55 for a description and analysis of the Lacey Act.

84. 16 U.S.C. § 4711(a) (Supp. 1992). Violation of this provision carries possible penalties of a $25,000 civil fine or constitutes a Class C felony if done knowingly. 16 U.S.C. § 4711(c)-(d) (Supp. 1992).

85. 16 U.S.C. § 4712 (Supp. 1992).

86. 16 U.S.C. § 4721 (Supp. 1992). The Task Force is co-chaired by FWS, the National Oceanic and Atmospheric Administration, and five other federal agency members. 16 U.S.C. § 4721(b)-(d) (Supp. 1992).

87. 16 U.S.C. § 4722(a) (Supp. 1992).

88. 16 U.S.C. § 4711(a) (Supp. 1992).

89. 16 U.S.C. § 4741 (Supp. 1992). Congress occasionally passes a law without providing funding which makes it highly unlikely that any of the goals of the legislation will ever be realized.

90. *See* Bederman, *supra* note 9, at 695 (suggesting the Act may "set in motion a policy-making process" which will ultimately lead to a significant attempt to eliminate the introduction of nonindigenous species generally).

91. OTA REPORT, *supra* note 4, at 168.

92. *Id.*

93. *Id.*

94. *Id.*

appropriating it.[95] Authorized funds for state programs[96] have not been forthcoming either.[97]

Eventually, the Task Force released its Draft Plan on November 12, 1992.[98] The Draft Plan does not assign duties to the various agencies on the Task Force, nor does it set forth future funding requirements.[99] The Draft Plan also lacks an emergency provision,[100] thus significantly decreasing its possible effectiveness. Consequently, by stating that intentional introductions are beyond its purview, the Draft Plan prevents the Nonindigenous Aquatic Nuisance Prevention and Control Act from being a much needed comprehensive federal tool for combating exotic species.[101]

In conclusion, the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 comes closer to addressing the problems posed by nonindigenous species than any other federal action.[102] Both the Task Force's narrow reading of its mandate and Congress's reluctance to disperse the authorized funding, however, has made it unlikely that the scope of the Act will expand beyond the importation of the zebra mussel.

A clear, comprehensive federal program is necessary to address nonindigenous species as the primary goal of the legislation, rather than as a mere afterthought.[103] But before recommending such legislation, this comment will consider the underlying policy issues which must be resolved before effective legislation can be enacted[104] and will then consider control and eradication methods.

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95. *Id.*
96. 16 U.S.C. § 4741(c) (Supp. 1992).
97. OTA REPORT, *supra* note 4, at 32.
98. *Id.* at 54.
99. *Id.* at 168.
100. *Id.* at 169.
101. *Id.*
102. In 1990, Representative Jim Saxton introduced a bill entitled the Species Introduction and Control Act of 1990. H.R. 5852, 101st Cong., 2d Sess. (1990). This bill creates rules and procedures that require "publication of submitted proposals [to introduce an exotic species], notification to potentially affected states, . . . an extensive literature review [on scientific studies of an exotic species], . . . opportunity for public comment and review, scientific peer review [of a proposed introduction], and final approval by affected states." 136 Cong. Rec. E3321-01 (1990). As of this writing, the author has been unable to determine the fate of this ambitious bill (although it presumably lost out in the House to the Aquatic Nuisance Preven tion and Protection Act of 1990).
103. Bederman, *supra* note 9, at 695.
104. One commentator noted that U.S. legislation in this area has "lacked a cohesive underlying policy." *Id.*

III. PROPOSED U.S. POLICY CONCERNING NONINDIGENOUS SPECIES

Any attempt to create a legislative approach to control non-native species must first address a few basic policy questions. In this section, this comment proposes a basic U.S. policy toward nonindigenous species. First, this comment will define the term "exotic species." Second, this comment will discuss the appropriate role of a "harmfulness" determination in developing legislation prioritizing the application of resources in controlling each non-native species.

A. Definition of Exotic Species

As mentioned in earlier sections of this comment, although many different definitions of "exotic species" exist,[105] there is no standard definition. Generally, an exotic species is one that has been introduced into an area to which it is not native.[106] But a key question in defining "exotic species" is whether species from the same country, but not native to a particular ecosystem are "exotic." Some scientists have resolved this question by drawing a distinction between species from outside a country (an exotic species) and species from within a nation, but from outside the ecosystem (a transplant species).[107] Since a biologically homogenous country is only slightly better than a biologically same planet,[108] U.S. policy must treat transplants like exotic species.

Federal policy must be based on an ecosystem approach in defining "exotic species." The artificial boundaries of U.S. states often divide ecosystems and have many separate ecosystems within each state. For example, California has over twenty climatic regions, each with its own unique ecosystem.[109] Therefore, introducing a species native to the Mojave desert into the coastal redwood forest would be as potentially harmful as introducing a blue crab from Chesapeake Bay into San Francisco Bay. Consequently, this comment proposes

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105. For example, Exec. Order 11,987 defines an exotic species as "all species of plants and animals not naturally occurring, either presently or historically, in any ecosystem of the United States." 42 U.S.C. § 4321, 1(c) (1988). The Aquatic Nuisance Prevention and Control Act defines "nonindigenous species" as "any species or other viable biological material that enters an ecosystem beyond its historical range, including any such organism transferred from one country into another." 16 U.S.C. § 4702(9) (Supp. 1992).

106. *See* sources cited *supra* note 105.

107. Kohler, *supra* note 3, at 2.

108. *See, e.g.*, Alan Burdick, *It's Not the Only Alien Invader*, N.Y. TIMES, Nov. 13, 1994, § 6, at 49.

109. *See generally*, L.A. TIMES, Metro Section, at B (the weather chart for the State of California delineates the various climatic regions).

that federal policy should reflect this reality by treating all species introduced from outside an ecosystem as nonindigenous.

B. When Is an Established Species Exotic?

A more difficult policy question is how much time must pass before an introduced species is considered native. For example, horses became established in the Southwest and Great Plains after Spaniards introduced them in the sixteenth century.[110] Although horses are not native to the United States, most Americans consider them so and, in fact, would contend they are a vital part of our national heritage. In fact, Congress has even given federal protection to wild horses on federal lands through the Wild Free-Roaming Horses and Burros Act.[111] If one draws the temporal line at 100 or even 300 years, horses are indeed native; however, if the crucial biological event is the arrival of Columbus, horses clearly are not native. Any definition depending on a temporal line, particularly one drawn at a hundred or more years ago, will become bogged down in a morass of historical inquiry and a lack of definitive data. Since many of the most harmful introductions have occurred in the last ten years, such historical inquiries often will serve no practical purpose.[112]

Rather than split hairs in this manner, a consideration of each species on its own merits would be more useful: a species-by-species consideration of an exotic organism's effect and role in its new environment. This individualized analysis would focus on the ecological impact of the species; the rate or likelihood of its spread into other ecosystems; its effect on other species, especially endangered species; and the ecological value of the areas it has invaded or likely will invade.[113] In the case of the zebra mussel, for instance, the analysis is straightforward: the zebra mussel poses great threats to the environment and endangered species and is spreading rapidly. Therefore, the zebra mussel should be considered an exotic species. Conversely, free-roaming horses and burros are a more difficult case. Any significant ecological impact on the environment which horses

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110. *See American People, Native*, 13 THE NEW ENCYCLOPAEDIA BRITANNICA 379 (15th ed. 1985).

111. 16 U.S.C. §§ 1331-1340 (1988).

112. *See* Ross, *supra* note 4, at 44. A bright-line test has the advantage of being very clear and thus would be preferable. However, given the multitude of factors involved in determining how harmful a recently introduced exotic species is or will become, efforts to formulate such a test are quixotic. Perhaps, over the course of many years, an administrative common law might develop which would provide the decision-maker with more clear cut rules.

113. In essence, these factors are the same as those addressed in the structured decision-making process proposed *infra* in the text accompanying notes 205-16.

and burros may have caused probably occurred hundreds of years ago. As long as their populations do not explode, they probably pose little threat to the environment. Therefore, horses and burros should not be considered exotic species. As these two examples illustrate, a species-by-species determination would be more practical in determining which species should be considered exotic.

C. "Harmfulness" Determination

Due to the economic concerns that drive some federal exotic species legislation, an exotic species only comes within the scope of the legislation if the species is economically harmful. For example, the Federal Noxious Weed Act[114] has a clear economic slant. The name of the Act tips its hand: the Federal *Noxious Weed* Act.[115] "Noxious" and "weed" are value-laden terms. In particular, a weed is "an economically worthless plant," which is often harmful to agriculture.[116]

Recently, however, a more environmental definition of harmfulness has emerged. The Aquatic Nuisance Prevention and Control Act[117] defines an "aquatic nuisance species" as "a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, aquacultural or recreational activities dependent on such waters."[118] Although this definition retains some economic elements, a fundamental shift to a concern about ecosystems has occurred.

A third approach would assume that exotic species are *per se* harmful. For example, Executive Order 11,987[119] defines "exotic species" as "all species of plants and animals not naturally occurring, either presently or historically, in any ecosystem of the United States."[120] If a species comes within this definition, it falls fully within the provisions of the Order, including restricting introductions. That is, an exotic species is *per se* harmful. The *per se* rule discounts the theory that an exotic species can establish itself in an unoccupied "niche" in an ecosystem, thus not displacing another species.[121] Rather, the *per se* rule assumes that any introduction displaces or

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114. 7 U.S.C. §§ 4701-4751 (Supp. 1992).
115. *Id.* (emphasis added).
116. Webster's Third New International Dictionary 2592 (8th ed. 1976).
117. 16 U.S.C. §§ 4701-4751 (Supp. 1992).
118. 16 U.S.C. § 4702(2) (Supp. 1992).
119. 3 C.F.R. 116 (1976-1980), *reprinted in* 42 U.S.C. § 4321 (1988).
120. 42 U.S.C. § 4321(1)(C) (1988).
121. *See* Marc Miller & Gregory Aplet, *Biological Control: A Little Knowledge Is a Dangerous Thing*, 45 RUTGERS L. REV. 285, 291 (1993).

infringes upon a native species and, therefore, upsets the equilibrium of the ecosystem.

The reference to "either presently or historically" detracts from this otherwise desirable definition in two ways. First, it prevents the restoration of a species that has become extinct in an ecosystem, because it is not "presently" occurring. Second, it suffers from significant temporal line drawing problems because it classifies a currently existing species, which was not part of the ecosystem in the past, as exotic, but does not provide a temporal frame of reference. Therefore, Executive Order 11,987[122] could arguably apply to any species introduction that has *ever* occurred, even one pre-dating the arrival of Columbus.

A consideration of the degree of harmfulness is necessary in prioritizing nonindigenous species. In a federal control program, some mechanism is needed for ranking exotic species so that resources can most efficiently and effectively address each species. Some species will pose such immediate ecological and economic harm that they must be addressed immediately (e.g., the zebra mussel), while other species that have been established for hundreds of years may be nonthreatening and therefore warrant only a low ranking on the priority list.

In conclusion, a comprehensive federal policy concerning nonindigenous species would a) view any species from outside an ecosystem as exotic, b) determine if an established species is exotic on an ad hoc basis rather than attempt to draw a temporal line, and c) assume all nonindigenous species are harmful.

IV. TECHNOLOGICAL MEANS OF PREVENTING INTRODUCTION AND CONTROLLING NONINDIGENOUS SPECIES

Before proposing new legislation concerning indigenous species, an examination of the various technological tools available to implement a federal prevention/control program is necessary. In this section, this comment will analyze the chief means of prevention of introduction and then the methods of controlling or eradicating established exotic species.

A. Methods for Preventing Introduction

122. 42 U.S.C. § 4321 (1988).

The most effective way of controlling exotic species is by preventing their importation into the United States.[123] Using a military analogy, preventing introduction provides the first line of defense.

1. Customs Inspections

Preventing the importation of a non-native species constitutes the most efficient and effective control method.[124] Therefore, both the U.S. Customs Service and the Animal and Plant Health Inspection Service (APHIS)[125] serve a vital role in screening the baggage of travellers and inspecting international cargo.

2. Quarantine of Imported Goods

In addition to preventing intentional introductions, the U.S. Customs Service and APHIS have other methods for preventing importation in the first place. One such method is by placing non-native organic goods in quarantine until it can be determined that the material is free of exotic species as well as disease.[126] For example, raw logs or timber imported from other countries (or ecosystems) can be placed in quarantine for as long as necessary to determine that they carry no exotic species.[127]

3. Re-Ballasting of Ocean-Going Ships

Ocean-going ships often partake in the common practice of taking on water into their ballast tanks before embarking to make the ship more navigable and then discharging this water after reaching the port of destination.[128] As noted earlier, the zebra mussel entered the Great Lakes through the ballast tank of an Eastern European freighter.[129] Exotic species hitch-hiking across the ocean in ballast tanks pose an ever-increasing risk due to the likely acceleration of

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123. Campbell, *supra* note 11, at 36; Devine, *supra* note 4, at 57; *see* Ross, *supra* note 4, at 50; Bederman, *supra* note 9, at 686-87.

124. *See* sources cited *id.*

125. APHIS, part of the United States Department of Agriculture, inspects shipments of agricultural products from foreign countries. OTA REPORT, *supra* note 4, at 139.

126. Campbell, *supra* note 11, at 37.

127. *See id.*

128. R. MICHAEL M'GONIGLE & MARK W. ZACHER, POLLUTION, POLITICS AND INTERNATIONAL LAW 16 (1979).

129. *See supra* note 12.

world trade.[130] For example, in a recent study of the ballasts tanks of 159 Japanese ships, 367 varieties of marine organisms were found.[131] Currently, 39,000 ships ply the oceans.[132] Consequently, the Aquatic Nuisance Species Prevention and Control Act of 1990[133] requires that an ocean-going ship re-ballast its tanks before entering the Great Lakes.[134] This Act also takes tentative steps toward requiring the re-ballasting of all ships before entering a U.S. port.[135] Such a rule would help eliminate a significant introduction medium.

4. Banning the Importation and Sale of Exotic Species

All potentially harmful non-native species could be banned from importation under the plausible assumption that anything that can be released into an ecosystem will be released into an ecosystem sooner or later. For example, individuals could no longer be permitted to sell exotic seeds and plants through seed catalogs and greenhouses without placing the exotic species involved on the white list.[136] Although the Lacey Act nominally bans the importation of exotic species, the Act's usefulness is limited.[137]

5. Protection of Ecosystems

Exotic species are often able to become established due to a disturbed ecosystem.[138] Usually, a healthy ecosystem can thwart potential invaders just as a healthy human body can fight off disease. But, when the ecosystem is disturbed and thereby weakened, the possibility of an exotic species invasion increases. For example, in the high desert, cattle have disturbed that delicate ecosystem by overgrazing natural plants and destroying the cryptogamic crust[139] covering the ground between plants, thereby allowing such exotic plant species as cheatgrass to encroach upon and eventually overwhelm the native plants.[140] Federal laws and regulations which protect ecosystems

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130. *See* M'GONIGLE, *supra* note 128, at 16; OTA REPORT, *supra* note 4, at 15.
131. Ross, *supra* note 4, at 45-47.
132. *Id.*
133. 16 U.S.C. §§ 4701-4751 (Supp. 1992).
134. 16 U.S.C. § 4711(b)(2) (Supp. 1992). *See, e.g.*, Bederman, *supra* note 9, at 685-87 (discussing the general pros and cons of re-ballasting requirements).
135. 16 U.S.C. § 4712 (Supp. 1992) (creating a national ballast water control program).
136. Devine, *supra* note 4, at 57. For a discussion of the white list approach, see *supra* text accompanying notes 47-48.
137. *See supra* text accompanying notes 30-55 for discussion of the Lacey Act.
138. Devine, *supra* note 4, at 57.
139. The cryptogamic crust consists of lichens, mosses, and other organisms. *Id.* at 55.
140. *Id.*

from overuse and abuse would aid in preventing the introduction of nonindigenous species.

B. Tools and Methods Available to Control Established Species

Once a species has become established, the prevention or limitation of a wholesale invasion becomes much more difficult. Nonetheless, there are three chief means for controlling already established exotic species: pesticides and herbicides, biocontrol, and physical control.[141]

1. Pesticides

The use of pesticides[142] constitutes a mixed blessing of the first magnitude. On the one hand, pesticides have had great success in eliminating species that harm crops, forests, and residential yards.[143] In recent years, herbicides have also been used effectively against a variety of plant invaders.[144]

On the other hand, pesticides have many negative characteristics. First, pesticides often have a limited period of effectiveness due to species' gradual development of tolerance or resistance to it.[145] Cockroaches come to mind as a common example. Second, perhaps most vexingly, pesticides tend to kill or adversely affect species other than the intended target. For example, studies have suggested the pesticide DDT may have contributed to the near extinction of the bald eagle.[146] Third, due to federal regulation, the development time of a pesticide is so slow as to approach glacial speed.[147] For example, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)[148] requires that, before a new pesticide can be registered, a pesticide manufacturer must show that "when used in accordance with widespread and commonly recognized practice it will not generally

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141. OTA REPORT, *supra* note 4, at 9.

142. This comment will use the term pesticide as a short hand for all chemical control agents, unless use of a more specific term is appropriate.

143. *See* OTA REPORT, *supra* note 4, at 152.

144. *See* Devine, *supra* note 4, at 57.

145. *Cf.* OTA REPORT, *supra* note 4, at 9 (listing the buildup of pest resistance as one of the difficulties with the development of biological and chemical pesticides). *See, e.g.*, Robert F. Luck et al., *Chemical Insect Control—A Troubled Pest Management Strategy*, 87 BIOSCIENCE 606, 606 (1977).

146. *Cf.* RACHEL CARSON, SILENT SPRING 118-22 (1962) (studies on other birds suggest that DDT has contributed to reproductive problems and was a possible contributor to the decline of the bald eagle population).

147. *Cf.* OTA REPORT, *supra* note 4, at 9 (noting that difficulties involved in the development of pesticides include "ensuring species specificity, slowing the buildup of pest resistance to the pesticide, and preventing harm to nontarget organisms").

148. 7 U.S.C. §§ 136-136y (1988).

cause unreasonable adverse effects on the environment."[149] Fourth, FIFRA has placed many strict, and therefore limiting, requirements on the use of pesticides.[150] FIFRA empowers the EPA to "conduct a program for the certification of applicators of pesticides" if the state in question has not done so.[151] Thus, anyone seeking to eradicate a species must first receive certification. These four factors significantly limit the usefulness of pesticides.

Despite these limitations, pesticide use can be an effective control technique. For example, the Great Lakes Fishing Commission relies on two particular pesticides to control the sea lamprey—which the zebra mussel dethroned as the most invidious exotic species in the Great Lakes—with no significant adverse side effects.[152] Pesticides are a useful, but limited tool, which must be used carefully.

2. Biocontrol

The use of biological agents to control non-native "pest" species dates back hundreds of years.[153] Biocontrol is defined as "the discovery, importation and release of a foreign species with the expectation that it will control a pest population."[154] Usually, the biocontrol species is from the same ecosystem and is a predator of the species to be controlled.[155] The use of cats to control mice in homes and other structures springs to mind as the most common example of biocontrol. Mixed results have also marked biocontrol efforts.

On the positive side, use of biocontrol organisms "has been praised . . . as a non-polluting, ecologically sound, efficient, and sustainable pest control method."[156] Biocontrol efforts have been successful in controlling non-native "pests of citrus trees in California and sugar cane in Hawaii."[157]

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149. 7 U.S.C. § 136a(c)(5)(D) (1988).
150. *See generally* 7 U.S.C. §§ 136-136y (1988).
151. 7 U.S.C. § 136i(a)(1) (1988).
152. OTA REPORT, *supra* note 4, at 161.
153. F.J. Simmonds et al., *History of Biological Control, in* THEORY AND PRACTICE OF BIOLOGICAL CONTROL 17 (C.B. Huffaker & P.S. Messenger eds., 1976). This study notes 23 instances of biological control through intentional introduction of an exotic species between 1200 and 1888. *Id.* at 20-21.
154. Francis G. Howarth, Classical Biocontrol: Panacea or Pandora's Box, Presidential Address Before the Hawaiian Entomological Society (Dec. 1986), *in* 24 PROC. HAW. ENTOMOLOGICAL SOC'Y 239, 239 (1988).
155. Miller and Aplet, *supra* note 121, at 291.
156. *Id.* at 287-88. *But see* M. Tomczak, Jr., *Defining Marine Pollution: A Comparison of Definitions Used By International Conventions*, 8 MARINE POL'Y, 311, 321-22 (Oct. 1984) (arguing that nonindigenous species should be viewed as a form of marine pollution).
157. Miller and Aplet, *supra* note 121, at 287.

On the other hand, numerous unintended side effects plague biocontrol. First, the biocontrol agent may directly harm the ecosystem into which it is introduced.[158] For example, the mongoose was introduced into Hawaii to eliminate rats which were infesting the sugar cane fields.[159] Unfortunately, the mongoose also preyed upon native birds, which ultimately led to their demise.[160]

Second, determining which non-native species will most effectively, efficiently, and safely control a pest can be an expensive and time-consuming endeavor.[161] Once scientists find a likely biocontrol candidate, establishing the biocontrol species in the wild and ensuring that it will only affect the target species can be difficult.[162] "For example, of 679 biocontrol organisms introduced into Hawaii between 1890 and 1985, only 243 established, and only 157 of these are believed to attack only their intended target."[163] Moreover, scientists have often failed to take into account the impact a biocontrol species will have on "non-economic species, native pest controls, or ecosystem dynamics."[164] Therefore, biological control efforts suffer from a significant lack of precision.

Third, the concept of introducing one nonindigenous species to control an already established exotic species seems ironic, if not absurd. Still worse is the introduction of a non-native biocontrol agent to control a native species.[165] By definition, a biocontrol agent is intended to both impact and become a self-propagating part of the ecosystem.[166] In this sense, biocontrol poses a greater threat to the environment than does the use of pesticides since pesticides eventually leave an ecosystem.[167] If the biocontrol species establishes itself in its new ecosystem, the biocontrol species will inevitably infringe upon a native species or its habitat.[168] By nature, biocontrol species are "aggressive, voracious," and prolific reproducers.[169] Biocontrol agents

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158. *Id.* at 291 (noting that "[e]ach biocontrol success . . . comes at an often unrecognized cost to the integrity of the ecosystem").

159. *Id.* at 291-92.

160. *Id.*

161. Devine, *supra* note 4, at 57.

162. *See id.*

163. Miller and Aplet, *supra* note 121, at 294, *citing*, George Y. Funasaki et al., A Review of Biological Control Introductions in Hawaii: 1980 to 1985, *in* 28 PROC. HAW. ENTOMOLOGICAL SOC'Y 105, 112 (1988).

164. Miller and Aplet, *supra* note 121, at 288.

165. *Id.* at 297.

166. *Id.* at 295.

167. *Id.*

168. *See supra* text accompanying note 121 for description and refutation of the empty niche theory.

169. Miller and Aplet, *supra* note 121, at 295.

also have the uncanny ability to spread far beyond the area of infestation.[170] As a result of these characteristics, predicting how a biocontrol species will ultimately affect its new home borders on the impossible. In Hawaii, for example, the nonindigenous *lantana camara* vine only became a problem when the common mynah bird was introduced to control the armyworm. The mynah bird unexpectedly began spreading *lantana* throughout Hawaii.[171] Both the mynah bird and *lantana* are now considered pests in Hawaii.[172]

The use of biocontrol agents is fraught with a number of serious shortcomings. The negative side effects are so numerous that biocontrol should only be employed when the party seeking to use it demonstrates that a) this method is the most effective means of controlling another non-native species and b) this method will not be likely to have a significant impact on the ecosystem.

3. Physical Control Efforts

Physical control consists of using the direct application of "mechanical (e.g., mowing), manual (e.g., hand pulling), or cultural (e.g., burning)" forces to kill or maim an exotic species.[173] Manually removing an exotic species, especially plants, constitutes the most environmentally friendly means of ridding an ecosystem of non-native species.[174] Rather than poison the area with pesticides or introduce an unpredictable biocontrol agent, manual removal permits control or eradication without significant negative side effects.

Despite these obvious benefits, attempting to use manual effort to control or eradicate a species approaches the Sisyphean in its endless labor and futility. For example, a group of volunteers began a program to clear a portion of Golden Gate National Recreation Area of all non-native plants. After logging 20,000 human hours, they were only able to clear and keep clear sixty acres.[175]

Even if the potential work force and technology is available, physical efforts tend to be expensive. In the Great Lakes, scientists developed a technology which eliminates zebra mussels through the use of lethal shocks; but, the technology has not been used due to its high energy costs.[176] Given that physical control efforts tend to be labor intensive and/or prohibitively expensive, other methods will

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170. *Id.*
171. *Id.* at 292.
172. *Id.*
173. OTA REPORT, *supra* note 4, at 151.
174. Devine, *supra* note 4, at 56-57.
175. *Id.*
176. Ross, *supra* note 4, at 48.

often prove more useful, especially for exotic species which have little economic impact.

In conclusion, preventing the importation of exotic species provides the best means to prevent introductions. Once a species becomes established, however, pesticides, biocontrol, and physical control methods can be effective, especially immediately after introduction. Thus, preventing importations and introductions provides the first line of defense and efforts to eliminate an established species constitute a second line of defense.[177] Biocontrol and pesticides should be employed selectively and with the utmost care. In section IV, this comment will propose national legislation to comprehensively address the difficulties caused by nonindigenous species.

V. A PROPOSAL FOR AN EXOTIC SPECIES ACT

The recent infestations of the zebra mussel and the specter of killer bees have focused national attention on non-native species and spurred new efforts to study and control exotic species.[178] "Until recently, therefore, the chief conditions for effective environmental policymaking—a perceived need for action coupled with adequate scientific information—were absent."[179] The exotic species issue demands Congressional attention because "[w]hich species to import and release and which to exclude are ultimately cultural and political choices—choices about the kind of world in which we want to live."[180]

In this section, a comprehensive legislative scheme will emerge which centralizes authority over federal programs in one agency, increases federal efforts to prevent the accidental or intentional introduction of non-native species, provides for a structured decision-making process, creates a federal exotic species priority list for control and eradication, mandates post-release monitoring by the releasing party, sets up a national education campaign, and authorizes funding to implement the proposed statute. Before presenting this proposal, however, one must first consider the Constitutional basis of federal action.

A. Constitutional Basis

177. OTA REPORT, *supra* note 4, at 8-9.
178. *See, e.g.*, Devine, *supra* note 4.
179. Bederman, *supra* note 9, at 695.
180. OTA REPORT, *supra* note 4, at 15.

An argument can be made that exotic species are essentially a local problem and therefore should be governed by state law.[181] Such a view, however, misjudges the scope of the problem and ignores political reality. Currently, a state can permit the introduction of an exotic species over the objections of neighboring states, even though the exotic species will likely invade the neighboring states.[182] Therefore, federal regulation of exotic species is required to prevent such conflicts.

Constitutionally, two means for regulating this area are readily apparent. First, if exotic species are defined as a form of pollution, they can be regulated like any other pollutant.[183] Second, the Commerce Clause provides authority to federally regulate non-native species due to their adverse affect on timber and agriculture.[184] Finally, the Property Clause provides the Constitutional authority to regulate exotic species on federal land.[185] Therefore, ample Constitutional authority exists to regulate nonindigenous species.

B. Centralized Agency Authority

Federal efforts concerning nonindigenous species are currently spread over twenty agencies.[186] As a result, inefficiency and lack of coordinated efforts plague federal exotic species programs.[187] Merely mandating that all federal agencies use their utmost ability to thwart exotic species will not suffice.[188] Perhaps a federal program with coordinated implementation among all federal agencies would partially address the problem.[189] But the inherent inefficiency and diffusion of responsibility of a multi-agency approach would make such a legislative proposal weaker than is necessary to address the problem.[190]

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181. Using a now classic Law & Economics rationale, state nuisance law could be used to address this problem. *See, e.g.*, RICHARD A. POSNER, ECONOMIC ANALYSIS OF THE LAW 56-57 (3d ed. 1986). Of course, such a solution depends upon the federal government divesting itself of all its real estate holdings, which constitutes a serious limitation on the nuisance remedy in this context.

182. *See supra* note 21.

183. Kurdila, *supra* note 9, at 116-17.

184. *See* U.S. CONST. art. I, § 8, cl. 3.

185. *See* U.S. CONST. art. IV, § 3, cl. 2.

186. OTA REPORT, *supra* note 4, at 11.

187. *Id.* at 16-17.

188. *See* Devine, *supra* note 4, at 57 (noting that only "one-tenth of the plants that are recognized as agricultural pests" are listed under the Federal Noxious Weed Act).

189. OTA REPORT, *supra* note 4, at 11.

190. *See id.* at 16-17.

This comment therefore proposes that authority and responsibility for exotic species must be consolidated into one federal agency.[191] Although FWS or APHIS could fill this role, the creation of a new agency would be optimal because it would have a clear mandate and would avoid overburdening the agency with a variety of disparate duties.[192] Therefore, this comment proposes the creation of the Exotic Species Service (ESS). This agency would have the duty of coordinating and overseeing all federal and state efforts[193] and would provide the central authority necessary to avoid piecemeal regulation.[194] ESS would also carry out eradication and control efforts and coordinate scientific research on exotic species.

A significant problem with the current regulatory approach is that most agency actions are reactive: long after the species has become established, the agency takes action.[195] A program must be created to implement an emergency authority at an earlier stage. Such a program would have four steps. First, ESS must carefully monitor all ecosystems in order to detect an invasion as early as possible.[196] Second, when an infestation occurs, ESS must be able to quickly determine a species' potential harmfulness and then prioritize the threat.[197] Therefore, the Act must create an expedited decision-making process.[198] Third, once the threat is assessed, ESS must be willing to take broad actions which may later turn out to be unnecessary.[199] Fourth, the program must have the financial and personnel resources necessary to implement it.[200] Only through the creation of a centralized federal agency with emergency powers can this proposed legislation achieve its goals.

C. Reinforce Efforts to Prevent Introduction

Since preventing importation and introduction provides the first line of defense against exotic species invasions, federal efforts to

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191. *Id.* at 16, 32-33.
192. Although FWS is the agency with the most expertise in this area and is certainly able to fulfill the duties proposed here, FWS already has a great deal of responsibility concerning management of wildlife and endangered species.
193. OTA REPORT, *supra* note 4, at 25. This role mirrors FWS's duties under the Endangered Species Act. *See* 16 U.S.C. §§ 1531-1544 (1988).
194. OTA REPORT, *supra* note 4, at 16, 25.
195. *Id.* at 8. The sooner a response to an infestation occurs, the greater the chance for both success and decreased overall costs. *See id.* at 37-39.
196. *See id.* at 37.
197. *Id.* at 39.
198. *Id.* at 37, 39.
199. *Id.* at 37.
200. *Id.*

prevent intentional and unintentional importations and introductions must be reinforced. Thus, this comment proposes that 1) efforts to intercept non-native species in ports of entry must receive further funding, 2) the federal government should adopt a white list approach for permitting importations, and 3) any unauthorized introduction should be classified as a federal crime.

1. *Increase Inspections at Ports of Entry*

APHIS and the U.S. Customs Service play a crucial role in preventing exotic species introductions by detecting and excluding such organisms before they enter the United States.[201] To enable these agencies to increase their efforts to exclude exotic species, more personnel and funding must be provided. Thus, this comment proposes that these agencies receive significant increases in financial and human resources.

2. *The White List*

This comment proposes that all nonindigenous species be banned from importation. The black list approach currently in use under the Lacey Act should be abandoned because it has been unsuccessful in preventing introductions. The Lacey Act approach places the burden on the federal government to determine whether a species is harmful.[202] Before permitting any intentional importation of a nonindigenous species, this comment proposes that the importing party must first conduct an EIS-style analysis, which shows that the species is highly unlikely to be harmful if introduced into a particular ecosystem.[203] Such a requirement would place the onus of the harmlessness showing on the importing party. This approach would avoid burdening ESS with the determination of whether the species should be banned. This approach would also assist in preventing potentially harmful introductions from occurring before a species could be banned, a common occurrence under the Lacey Act.[204]

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201. *See supra* text accompanying notes 123-25.
202. *See supra* note 45 and accompanying text.
203. *See infra* text accompanying notes 205-10 for discussion of this structured decision-making proposal. Such a showing of harmlessness would not be impossible to make because most exotic plants, pets, and zoo animals would be unable to survive in the wild. Further more, once any importer has placed a species on the white list for a particular ecosystem, that importer or any other party could import as many species as they wish.
204. *See supra* text accompanying notes 45-53.

3. *Criminal Penalty*

This comment proposes that any violation of the ban on exotic species introduction be classified a criminal offense. Without significant teeth, any benefits that accrue from the enactment of this proposal would be undercut by illegal importations and introductions. If the attempted importation or introduction were negligent, the guilty party should be fined not more than $25,000. Anyone knowingly violating this provision would be guilty of a Class C felony, which would entail a fine of up to $50,000 and/or a prison term of up to ten years. These provisions would provide a substantial deterrent to merchants and international travelers.

D. *Structured Decision-Making Process*

Although the intentional introduction of an exotic species would certainly "significantly affect the human environment," EISs have infrequently been conducted for such actions.[205] In fact, the Office of Technology Assessment concluded that Congress would have to issue a specific directive for the National Environmental Policy Act[206] to be applied to exotic species introductions.[207] Therefore, if a state or individual decides to import or release an exotic species, they can do so without considering its impact on the environment[208] because no statute requires a structured analysis.[209] This comment proposes that any individual attempting to introduce an exotic species must first conduct an EIS-type analysis of the likely impact such introduction will have.[210] ESS would oversee this analysis and the states involved would be included in the decision-making process.[211]

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205. OTA REPORT, *supra* note 4, at 18. However, the State of New Jersey has recently conducted an EIS concerning a proposed introduction of chinook salmon into Delaware Bay. *Id.*

206. 42 U.S.C. §§ 4321-4370b (1988).

207. OTA REPORT, *supra* note 4, at 18.

208. *Cf.* Miller and Aplet, *supra* note 121, at 299 (stating that "[n]o federal statute currently requires that biocontrols be reviewed before they are introduced").

209. *See supra* text accompanying notes 30-104, for discussion of the principal statutes in this area.

210. *See generally* Bederman, *supra* note 9, at 699-70 (discussing suggestions made for the Biodiversity Convention project, including the recommendation to include in the Convention on Biological Diversity "language that will impose a duty . . . to initiate programs of research to further study the effects of" introductions of alien species); *see also* OTA REPORT, *supra* note 4, at 23 (addressing the "clean list" alternative to the Lacey Act, which would "prohibit[] all species" unless the importer proves the "species is not harmful").

211. *See* Kurdila, *supra* note 9, at 117 (suggesting that federal implementation of proposed guidelines for controlling the introduction of exotic species would not "preclude state participation in the decisionmaking process").

Like an EIS, this analysis would consider the purpose and impact of the release, the ecosystem involved, and the likelihood that the released species will spread into other ecosystems. At the same time, this analysis would employ such techniques as environmental assessment, cost/benefit analysis, and risk analysis.[212] Perhaps an additional step in the analysis would entail a limited release in a "closed" ecosystem.[213] If any indigenous species could fill the desired role, the proposed release should not be permitted unless the party seeking introduction can make a particularized showing of the need for the exotic species at issue.[214]

In considering the non-native species impact, the decision-making analysis should focus on the likelihood that the introduced species will a) displace native species, b) prey upon native species, c) threaten natural, agricultural, and silvicultural resources, or d) adversely impact humans.[215] Any scientific data on the nonindigenous species should be incorporated in the analysis and, if such information is significantly lacking, scientific studies should be commissioned.[216] This structured decision-making process will ensure that no future ill-considered or unconsidered introductions will take place.

E. Federal Exotic Species Eradication and Control Program

A requisite part of any comprehensive proposal concerning exotic species is the creation of a program for the eradication and control of the most troublesome and threatening species.[217] ESS must incorporate the white list into an overall list of all known nonindigenous species in the United States. ESS must prioritize the species on this eradication and control list for two reasons. First, the cost of actively controlling all species would be astronomical.[218] Consequently, the least damaging non-native species will have to be "written off."[219] Second, some species, such as the zebra mussel, pose

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212. OTA REPORT, *supra* note 4, at 7.

213. Kurdila, *supra* note 9, at 112, 116. By introducing an exotic species into a closed system first, the "potential impact on native species" will be limited, "since the number of species presently in that system is limited." *Id.* at 112.

214. *Id.* at 111, 113.

215. *Id.* at 112-13.

216. *Id.* at 113.

217. *See generally* OTA REPORT, *supra* note 4, at 39 (giving examples of states which design their eradication programs to specifically target those species which they rank as the most threatening and troublesome species). OTA notes that increased eradication efforts are necessary because it is politically unrealistic to significantly increase customs inspections. *Id.*

218. *See, e.g.*, Devine, *supra* note 4, at 57.

219. *See id.* at 71.

an imminent danger to the environment and industry which demands immediate attention.

Between the malignant and the benign lie many exotic species which are harmful, but not terribly so. In prioritizing these species, ESS should consider whether the species is threatening a wilderness area, an island, an area of rich biodiversity, or the habitat of an endangered species, as well as the economic damage it causes.[220] The length of time since introduction should only be considered to the extent that a non-native species has been recently introduced, poses a serious threat, and is likely to spread rapidly.[221] The eradication program and priority list will thus form the second line of defense against exotic species. ESS should be provided with sufficient funding and resources to implement this program.

F. Miscellaneous Provisions

This comment proposes that the comprehensive legislative scheme contain provisions which provide for 1) mandatory post release monitoring of newly released species, 2) educational programs designed to teach the public about the general threat exotic species pose to the environment, and 3) funding for the implementation of this proposal.

1. Mandatory Post Release Monitoring

To ensure that the newly released species has not had unforeseen effects on its ecosystem or has not spread beyond it, this comment proposes that the introducing party must conduct follow up monitoring. The monitoring period should be conducted annually for a minimum of ten years and should continue until the species has reached a state of equilibrium in its ecosystem. Further monitoring should be conducted every five to ten years thereafter to ensure that the species still poses no significant threat to the environment.

2. Education Program

The average person is probably unaware of the general threat that exotic species pose to the environment. Unknowingly, one might exacerbate the problem by importing and introducing exotic species into a local ecosystem.[222] Therefore, this comment proposes that ESS

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220. OTA REPORT, *supra* note 4, at 40.

221. See *id.* at 39-40, for discussion of the debate surrounding to what extent, if any, time should matter in prioritizing species.

222. *See* Ross, *supra* note 4, at 54.

operate a public program of nonindigenous species education.[223] This program could explain why "innocently" smuggling exotic organic material or animals into the United States can be harmful to the environment. The program could also urge the public to refrain from releasing any nonindigenous pets or plants into the environment. Although merely supplemental to the other aspects of this proposal, an education program could help prevent future introductions at relatively low cost.

3. Funding Authorization

In order to implement this proposal, Congress must authorize the necessary funding. Without sufficient funding, this proposal could never be fully realized.

VI. CONCLUSION

This comment has outlined the threats posed by exotic species to the ecosystems and economy of the United States. Federal efforts in the area of exotic species have been piecemeal and inadequate. The underlying reason for a lack of a concerted effort in this area is the absence of a coherent federal policy. The basic definitional issues surrounding exotic species form the basis of federal policy. Therefore, this comment defines exotic species as any species not native to the ecosystem in which it has been introduced. Prevention of importation, pesticides, biocontrol, and physical control efforts constitute the chief means available to control or eradicate non-native species.

To comprehensively address exotic species concerns, this comment proposes an Exotic Species Act. This Act would centralize authority over federal programs in one agency, which would be granted emergency powers and the duty to coordinate state and federal efforts. In addition, this Act would require a structured decision-making process similar to an EIS. This proposal additionally calls for the adoption of a white list approach, which would ban all introductions of nonindigenous species unless the introducing party could show the species is unlikely to have a significant impact on the environment. This legislation would create a federal program for the control and eradication of exotic species. Under this Act, the U.S. Customs Service would be provided with increased federal funds and staff to prevent the accidental or intentional introduction of non-native species. This proposal mandates post-release monitoring by the

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223. OTA REPORT, *supra* note 4, at 34-35.

introducing party. The creation of a national education campaign would supplement the main provisions of this proposed legislation.

The federal government must act now to halt further loss of biodiversity and degradation of the environment by nonindigenous species. The enactment of this proposal would go a long way in safeguarding the ecosystems of the United States from exotic species.

BALANCING COMMUNITY NEEDS AGAINST INDIVIDUAL DESIRES

HEATHER FISHER LINDSAY*

I summoned nature, pierced through all her store
Broke up some seals, which none had touched before
Her womb, her bosom, and her head,
Where all her secrets lay a-bed,
I rifled quite; and having passed
Through all the creatures, came at last
To search myself, where I did find
Traces and sounds of a strange kind.[1]

I. ALIENATION FROM ECOLOGICAL AWARENESS

The inhabitants of Earth face an ecological crisis that has yet to be addressed adequately politically or legally. Despite the great strides taken through environmental legislation in the United States,[2] courts have not always allowed the full implementation of the legislative purposes,[3] and the burdens of administering the statutes compromise

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1. Henry Vaughan, *Vanity of Spirit*, *in* THE COMPLETE POEMS 171 (A. Rudrum ed., 1976) (Vaughan born in 1622).

2. Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544 (1988 & Supp. V 1993); Clean Water Act, 33 U.S.C. §§ 1251-1387 (1988 & Supp. V 1993); National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-4370(c) (1988 & Supp. V 1993); Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-6992 (1988 & Supp. V 1993); Clean Air Act, 42 U.S.C. §§ 7401-7642 (1988 & Supp. V 1993); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675 (1988 & Supp. V 1993).

3. *See* John R. Bevis, *In re* Jensen: *Demonstrating the Need for Supreme Court Resolution of the Conflict Between CERCLA and the Bankruptcy Code*, 9 J. LAND USE & ENVTL. L. 179 (1993) (showing that courts implement Code's purposes instead of CERCLA purposes where conflicting). See also Lujan v. Defenders of Wildlife, 112 S. Ct. 2130 (1992), where the Supreme Court held the petitioners did not demonstrate an injury in fact sufficient to meet standing requirements. Inclusive language in the citizen suit provision at issue, which stated that "any person may commence a civil suit on his own behalf (A) to enjoin any person, including the United States and any other governmental instrumentality or agency . . . who is alleged to be in violation of any provision of this chapter," indicates that the violation of the provision is itself the injury required for suit. *Id.* at 2146 (referring to 16 U.S.C. § 1540 (g)). Curiously, the petitioner in Lucas v. South Carolina Coastal Council, 112 S. Ct 2886 (1992) demonstrated injury in fact though he alleged no more than the kind of "some day" intentions that fatally undermined the petitioners' claim to injury in *Lujan*. *Lucas*, 112 S. Ct. at 2908 (Blackmun, J., dissenting) (referring to *Lujan*, 112 S. Ct. at 2138).

agency implementation.[4] Further, the judicial interpretations complicate the problem by assuming that land is fungible (worth only the money value reflected by the market).[5] Market analysis is inherently flawed in its reduction of rights to monetary value because the law recognizes ethical concerns as well as economic concerns.[6]

This comment suggests that a revitalization of the concept of property ownership rights is a necessary step in addressing environmental issues. Ecological harm and property law in the United States are products of our inheritance from European culture, so this comment attempts to describe the dominant themes and their reflection in the law. This comment suggests that reorienting the law of property must occur to protect against the exploitation of human and nonhuman life.

"[F]undamental social transformation" appears critical to remedying the gross irresponsibility of those with power.[7] Aside from the typical human resistance to change, the "legacy of male dominance" in our culture involves stubborn structural resistance to transformation.[8] The structure survives on a collection of conditions: first, masculine

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4. For instance, Exec. Order No. 12,630, 53 Fed. Reg. 8859 (1988), *reprinted in* 5 U.S.C. § 601 (1988), requires economic impact analyses of regulations on property rights. Agencies are required to justify their regulations through cost-benefit analyses and are monitored for compatibility with presidential policy by the Office of Management and Budget. *See* Exec. Order No. 12,866, 3 C.F.R 638 (1994).

5. As an example, takings jurisprudence manifests this idea. Justice Scalia in Lucas v. South Carolina Coastal Council agrees with Lord Coke that "what is the land but the profits thereof?" 112 S. Ct. at 2894 (quoting 1 E. COKE, INSTITUTES Ch. 1, § 1 (1st Am. ed. 1812)). *See also* Miller v. Schoene, 276 U.S. 272, 278-79 (1928) (approving destruction of trees for purposes of protecting profitable enterprise); Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 414-15 (1922) (finding a taking and reasoning that a regulation making coal mining "commercially impracticable" has the "same effect for constitutional purposes as appropriating or destroying it," although the coal was valuable as a barrier against subsidence).

6. See MARK SAGOFF, THE ECONOMY OF EARTH 28, 181 (1988), for the propositions that environmental goals "stem from our character as a people, which is not something we choose, as we might choose a necktie or a cigarette, but something we recognize, something we are" and "the goals of social regulation—clean air and water, workplace safety, public health, and the like—are ethical, not economic. They are attempts . . . to make society better, not to make the economy more efficient." *See also* MURRAY BOOKCHIN, REMAKING SOCIETY 24 (1990) (characterizing such values as "social" rather than economic).

7. Janis Birkeland, *Ecofeminism: Linking Theory and Practice*, *in* ECOFEMINISM 13, 13 (Greta Gaard ed., 1993). Birkeland notes that "exploitation of nature" cannot end "without ending human oppression." *Id.* at 19. *See also* BOOKCHIN, *supra* note 6, at 170-71 (society must "recognize that our problems go to the heart of a domineering *civilization*, not simply to a badly structured ensemble of social relations" and "harmonization of nature cannot be achieved without the harmonization of human with human").

8. Birkeland, *supra* note 7, at 24. The author does not intend to overlook any one of the multiplicity of exploitative relationships in society; however, this comment cannot fully address these issues. Rather, the comment touches on many of the relationships in the context of land use and environmental decision-making, with the recognition that men make most of the exploitative decisions.

and feminine archetypes are polarized; second, everything is instrumentalized so that nothing has value beyond its usefulness to "man"; third, "man" is autonomous; fourth, male experience is universalized; and fifth, power is exercised over others.[9] These elements have the synergistic effect of entrenching male supremacy because "if Mankind is by nature autonomous, aggressive, and competitive . . . , then psychological and physical coercion or hierarchical structures are necessary to manage conflict and maintain social order."[10] Transforming exploitative relationships can be done, however, because socialization, not genetics, has allowed enforcement of dominating relations.

Viewing the ecological community as a collection of fungible items is one expression of the power dynamic, and the view is dangerous in its simplification of a source of life into its exchange value as an exploitable resource.[11] Exploring why we value monetary gain over the health and safety of millions is as necessary as identifying the problem itself. By examining the source of environmental irresponsibility, we can begin to heal the environmental crisis, which encompasses the harm inflicted on Earth's cycles as well as the harm suffered by human and nonhuman species. Developing corrective lenses through which soil, water, air, and other species can be seen as valuable and powerful life forces[12] requires questioning the current value system. Restoring societal vision will transform our eighteenth century expectations of land ownership, dangerous in this era,[13] into an Earth ethic that respects the cycles we try to manage, control, and subdue.

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9. *Id.*

10. *Id.* at 25.

11. *See* Vandana Shiva, *Development as a New Project of Western Patriarchy, in* REWEAVING THE WORLD 189, 196 (Irene Diamond & Gloria Feman Orenstein eds., 1990) (The "ideological and limited Western concept of productivity has been universalized with the consequence that all other costs of the economic process have become invisible."). *See also* Margaret Jane Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849 (1987).

12. As long as soil, water, and air are capable of supporting life, then arguably those elements are living as well. At one time this observation would have been uncontroversial. *See generally* CAROLYN MERCHANT, THE DEATH OF NATURE 20-29 (1980).

13. *See also* Michael C. Blumm, *Public Property and the Democratization of Western Water Law: A Modern View of the Public Trust Doctrine*, 19 ENVTL. L. 573, 599 n.108 (1989):

> [A]bsolutist approach to the takings issue assumes a world in which the public interest is simply the aggregate of those fortunate enough to own land. This eighteenth century view . . . would also stifle recognition of the essential public nature of natural resources allocation, substituting an artificial, atomistic view of the world for one in which individual landowner preferences are tempered by community values and collective choice concerning resources in which all have a legitimate stake.

Id.

Law as a system carries with it many moral judgments and attaches responsibility to various parties.[14] The real question here is not whether devaluing liberties to exploit property is a solution flawed for its normative quality. Rather, whether the normative judgment made should be reflected in the law is the question. The health and continued existence of human and nonhuman life depend on such a reorientation in the law of property. Current remedial measures may not be enough without debunking cultural assumptions about power and privilege.

II. *DON'T* IGNORE THE MAN BEHIND THE CURTAIN

In the Wizard of Oz, Dorothy and her friends were urged by the Wizard image to "ignore the man behind the curtain," when they visited the Emerald City. Determining the causes of our environmental crisis should be addressed so that we may better understand why we have the false perceptions we do concerning land use. Pull the curtain back and see who is manipulating the controls. Blaming a faceless system such as capitalism or patriarchy is as much a mistake as blaming indistinguishible masses of humans. Similarly, although the following sections outline religious and political ideologies that have influenced the ecological crisis, these ideologies alone are not responsible. Systems and ideologies are people, and people cannot be summed up by an economic theory or a power paradigm. The following influences, however, greatly inform the problem of determining responsibility.

A. *Male Supremacy and the Judeo-Christian Tradition*[15]

> For the windows of heaven are opened and the foundations of the earth tremble. The earth is utterly broken, the earth is rent asunder, the earth is violently shaken. The earth staggers like a drunken man, it sways like a hut, its transgression lies heavily upon it, and it falls, and will not rise again.[16]

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14. "Focusing on the law as a set of rules tends to import a validity and legitima cy that both obscure and subordinate the fact that the legal process involves moral discretion." John W. Van Doren, *Implications of Jurisprudence to Law Teaching and Student Learning*, 12 STETSON L. REV. 613, 626 (1983).

15. Focusing on Christianity is particularly appropriate considering that the different political theories popular in the 1760s and 1770s "[were] shaped by and remained connected to some variant of Protestantism." *See* William W. Fisher III, *Ideology, Religion, and the Constitutional Protection of Private Property: 1760-1860*, 39 EMORY L.J. 65, 93-94 (1990).

16. *Isaiah* 24:18-20.

Currently, the predominant religion in United States is a "[p]atriarchal spirituality [that] has been transcendent and earth-disdaining rather than earth-honoring."[17] The Judeo-Christian god is a celestial god figure ranking superior to any Earth deities.[18] The transcendence and removed nature of the celestial god, then, is valued by our culture above the immanence associated with the more ancient vegetation and Earth goddesses and gods.[19]

Alternative spirituality could unify the dualistic concepts of mind and body; feminine and masculine; nature and atmosphere. Arguably, however, "changing people's way of thinking through spiritual or educational persuasion would not reach the prime movers"[20] in politics and the economy. The idea that addressing this one factor successfully would not cure the ecological crisis supports the argument that blaming patriarchal spirituality alone would be insufficient in determining the causes of our alienated perspective. Nonetheless, the impact of religion cannot be neglected.

Prior to the rise of male monotheism in the late Neolithic period, worship of goddesses as the mothers of the universe was widespread.[21] In fact, Yahweh could originally have been a goddess because the name, Iahu'anat, derives from the older Sumerian goddess Inanna.[22] The Hebrew religion developed in conflict with the established goddess-worshipping cultures[23] and imposed itself by "assimilating, transforming, and reversing [goddess] symbol systems."[24] "[F]or many people, Yahweh simply replaced Baal[25] as the husband of the Goddess. Asherah, another form of the Canaanite Goddess, continued to be worshiped alongside Yahweh in the Solomonic temple for two thirds of its existence. Ordinary graves of Israelites show Yahwist and Goddess symbols together."[26]

The messages in Genesis of human male privilege over human females, all species, and Earth come as no surprise when considered in light of the struggle between the cult of male monotheistic spirituality

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17. Birkeland, *supra* note 7, at 47.

18. MIRCEA ELIADE, THE SACRED AND THE PROFANE 118-25 (1987) (describing how the experience of the sky is sacred).

19. *Id.*

20. Birkeland, *supra* note 7, at 47.

21. *See* ROSEMARY RADFORD RUETHER, SEXISM AND GOD TALK 47-52 (1993); MONICA SJOO & BARBARA MOR, THE GREAT COSMIC MOTHER 21-31, 45-227 (2nd ed. 1991); MARIJA GIMBUTAS, GODS AND GODDESSES OF OLD EUROPE 112-214 (1982); MERLIN STONE, WHEN GOD WAS A WOMAN 9-29 (1976).

22. SJOO & MOR, *supra* note 21, at 266.

23. *See* STONE, *supra* note 21, at 163-97.

24. RUETHER, *supra* note 21, at 54.

25. Baal is referred to in *Hosea* 2:2-3, 7-8 & 14-16, for example.

26. RUETHER, *supra* note 21, at 56.

and the established religion centered on the mothering qualities of the deity. Yahweh is a sky god in Judeo-Christian tradition, and the spirituality of the mother goddess clearly respects and grounds itself in cosmic and earthly cycles.[27] "[M]ale monotheism reinforces the social hierarchy of patriarchal rule through its religious system in a way that was not the case with the paired images of the god and goddess."[28]

For example, the father sky god instructs humans to "subdue" the earth.[29] Additionally, the serpents, dragons, and horned gods associated with earth-oriented religions and their cosmology stories became demonized by Hellenic and Hebrew mythology.[30] In Greek myth, Apollo kills Gaia's python, Perseus kills Medusa (described as having snakes growing from her scalp), Hercules destroys the Hydra.[31] An Egyptian myth relates the killing of the dragon Apophys by the pharaohs.[32] In the Sumer-Babylonian tale of Gilgamesh, Marduk kills his goddess mother, represented as a dragon or serpent, from whose body the universe was made.[33] Hebrew and Christian judgment stories involve the killing of serpent-like Leviathan and the subduing of Satan as a dragon.[34] All of these myths involve the destruction of earth-oriented symbolism and domination over the powerful figures from mother goddess religion. The aggression and sanctioned violence of these stories presage the currently destructive approach toward living organisms.

Further, the images of Yahweh as bringing feasts forth from Earth in response to the people's repentence and obedience[35] effect alienation from Earth's processes. As before noted, Yahweh is a celestial god unlimited by the processes of Earth. Yahweh is not a participant as older vegetation goddesses and gods were. Accordingly, Yahweh is both separate from and in control of Earth's processes in these images. To be god-like and to fulfill the wishes of the Judeo-Christian god in Genesis, humans (males) must sever their participation within the cyclical processes as a means of harnessing power.

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27. *See* sources listed *supra* note 21.

28. RUETHER, *supra* note 21, at 53 (referring to 1 *Corinthians* 11:3, 7, which lists the hierarchy in descending order as Christ, man, and woman).

29. *Genesis* 1:28.

30. Marti Kheel, *From Heroic to Holistic Ethics: The Ecofeminist Challenge, in* ECOFEMINISM 243, 245 (Greta Gaard ed., 1993).

31. *Id.*

32. *Id.*

33. *Id.*

34. *Id. See also Revelation* 12-21:1; *Psalms* 74:13.

35. *See Isaiah* 25:6-9; *Joel* 2:22-24; *Amos* 9:13.

The connection between Judeo-Christian religion and male supremacy needs little explanation. Male aggression against and domination of women is chronicled in countless verses[36] The books of Paul and Timothy reflect male supremacist values as well. During the period of medieval asceticism, the phobic image of woman/nature points to clerical misogyny.[37] For instance, woman's body is "described with violent disgust as the image of decay. Her physical presence drags down the souls of men to carnal lust and thus to eternal damnation."[38] Additionally, nature, earlier imaged as a "haughty male demonic figure whose fine robes conceal the vermin of rotting corruption," is imaged by the thirteenth century as Frau Welt, or dame nature. She has "a beckoning smile and courtly attire, but from the back she is revealed to be covered with foul, reptilian creatures of hell and the grave."[39] Here, then, the alienation from women and Earth connects.

That Christianity is connected to the destruction of life also should not be controversial. In the name of the Christian god, the Catholic Church killed between one and nine million persons over five centuries, extending into the seventeenth, during the Inquisition and witch hunts.[40] Eighty percent of those persecuted and burned in the witch hunts were female.[41] Further, in this century, five to six million Jews were killed in the name of the Christian god: Hitler, a Catholic, considered himself an agent of Jesus and accordingly justified to himself his genocidal plan.[42] Current events indicate that religion continues to motivate people to destroy each other, and if human life is not sacred, then nonhuman life certainly cannot be in the context of western spirituality.

The male supremacy examined here is part of the environmental degradation we experience today because the power dynamics of

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36. *See, e.g.*, *Ezekiel* 9:6-7 (killing of women and children); *Lamentations* 1:17 (Jerusalem is a monstrous woman); *Leviticus* 12 (purity taboos indicating more sinful state of female); *1 Samuel* 21:4 (holy men avoid women); *Isaiah* 3:16-17 (female sexuality punished by the Lord, who "will discover their secret parts"). Even granting problems in translation, the fact that such translations exist demonstrates the maldevelopment of western male monotheistic spirituality.

37. RUETHER, *supra* note 21, at 81.

38. *Id.*

39. *Id.*

40. *See* SJOO & MOR, *supra* note 21, at 298-314.

41. *Id.* "Thousands upon thousands of acres of land, homes, farms, and businesses, personal wealth and goods—all were stripped from the accused witch, and absorbed into the Church. The Church amassed wealth in this way since the property of those burned passed to the Church. Children of the condemned were forced to stand before the stakes, watching their parents burn; as they watched, they were whipped by the priests, as punishment for being spawn of the Devil." *Id.* at 302.

42. *See* SJOO & MOR, *supra* note 21, at 311; JOHN TOLAND, ADOLF HITLER 803, 811 (1976).

male over female and human over nature are inextricably linked[43] Although Christianity alone cannot account fully for the "European antinaturalism" that has alienated society from the concept of living matter:[44]

> Christianity is the most anthropocentric religion the world has seen. . . . man shares, in great measure, God's transcendence of nature. Christianity . . . not only established a dualism of man and nature but also insisted that it is God's will that man exploit nature for his proper ends. . . . By destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects."[45]

The indifference referred to probably would not have developed without the supporting scientific theory examined below.

B. Science and Technology

The discipline of science also has contributed to the false presumptions at work today by effectively transforming the image of nature. Today western culture hardly questions the "common sense" notion of nature as machine, but this idea is relatively new[46] During the Renaissance, plants, animals, minerals and gems were considered "permeated by life."[47] Additionally, "[p]opular Renaissance literature was filled with hundreds of images associating nature, matter, and the earth with the female sex."[48] Over the last 300 years, "animistic, organic assumptions" gave way to the current regime in which nature is a "system of dead, inert particles moved by external, rather than inherent forces."[49] Moreover, the mechanistic framework "carried with it norms [of] . . . . power and control [that] would mandate the death of nature"[50] so that the cycles would be understood as manipulable processes.

The loss of the previous value system that recognized the worth of all things and the concept of cyclical renewal is also a loss of the more ecologically sound concept of unity in diversity. Dualism, dangerous for its alienating character, is inherent in the work of Descartes and

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43. *See* MERCHANT, *supra* note 12, at 1-41, 127-48.

44. *See* BOOKCHIN, *supra* note 6, at 25 (asserting that the alienated attitude already existed in pre-Judeo-Christian spirituality).

45. Lynn White, Jr., *The Historical Roots of Our Ecological Crisis*, *in* THE ENVIRONMENTAL HANDBOOK 20-21 (G. DeBell ed., 1970).

46. MERCHANT, *supra* note 12, at 193.

47. *Id.* at 27-28.

48. *Id.* at 28.

49. *Id.*

50. *Id.* at 190.

Newton. For instance, both worked from the assumption that matter is inert and force is external.[51] The use of force against matter viewed as inert is implicitly taken for granted and therefore unquestioned.

Descartes was a major contributor to the mechanistic view. For him, "nature was a machine in perpetual motion, whose movements were predictable and caused of themselves by the mutual attractions and repulsions of its spinning vortices."[52] His attempts as rigorous questioning of assumptions led him to suppose that "his senses were like a book written to deceive him," and he viewed nature as an illusion or a dream.[53] Consequently, he established a "sharp dualism between mind and matter . . . . Man's passions are rejected as irrational intrusions, and the imagination is distrusted as a source of delusions."[54]

Francis Bacon's contributions cannot be minimized, however.[55] His perception of nonhuman life forms can be surmised from his attitude that "[t]he discipline of scientific knowledge and the mechanical inventions it leads to, do not 'merely exert a gentle guidance over nature's course, they have the power to conquer and subdue her, to shake her to her foundations.'"[56] Such an attitude has been argued to be at the root of the change of Earth's image "from a living, nurturing mother to inert, dead and manipulable matter" to serve the "exploitation imperative" of capitalism.[57] Bacon also has been called the "first man of technocracy,"[58] in that he stressed the connection between knowledge and how that knowledge could enrich the lives of people.[59] Baconian science made possible the Industrial Revolution, and in this period the mechanized perspective settled into culture.[60]

Around the turn of this century, another scientist echoed Bacon's sentiments with this congratulatory comment to Ernest Rutherford, experimental physicist and winner of the Nobel Prize in 1908: "The rush of your advance is overpowering and I do not wonder that Nature has retreated from trench to trench and from height to height,

51. *Id.* at 276-77.

52. J. BRONOWSKI & BRUCE MAZLISH, THE WESTERN INTELLECTUAL TRADITION 226 (1986).

53. *Id.* at 223.

54. *Id.* at 227-28.

55 *See* MERCHANT, *supra* note 12, at 164-90 (detailing Bacon's influence).

56. VANDANA SHIVA, STAYING ALIVE 16 (1989) (quoting Bacon).

57. *Id.* at 17. Actually, this change for white European culture probably began with the shift from the old Mother Goddess religion to male monotheism. *See generally*, STONE, *supra* note 21.

58. NEIL POSTMAN, TECHNOPOLY 38 (1993).

59. *Id.* at 35.

60. *Id.*

until she is now capitulating in her inmost citadel."[61] Rutherford himself characterized his success this way: "My work on the atom goes on in fine style. Several atoms succumb each week."[62] Although nature continues to be imaged in a manner other than as machine, these references are simply precursors to the machine-like view. Until science exacts the desired power from nature, nature is a woman to be subdued (arguably raped in the language above).

The sexual rhetoric surrounding the drive to construct the atomic bomb reflects the same power dynamic articulated by Bacon[63] Collectively, the scientists involved appeared to perceive their role as fathers of a child in the form of a bomb. The metaphors were popular among scientists and the political leaders involved. For example, in response to the idea of collecting and reusing missile rockets, one scientist commented that "[t]his sounds to me like a proposal to use the same condom twice;"[64] additionally, "fratricide" has been the term to describe explosions destroying accompanying missiles that have not reached their targets.[65] Historians state that the following telegram to the Secretary of War refers to the plutonium bomb: "Doctor has just returned most enthusiastic and confident that the little boy is as husky as his big brother. The light in his eyes is discernible from here to Highhold and I could have heard his screams from here to my farm."[66] The Secretary of War then notified Winston Churchill that the "babies" were "satisfactorily born."[67]

The fact that constructing bombs is compared to procreation not only points to human (male in this case) arrogance, but also to the pervasive character of the mechanized perspective. Not only are humans machines, but machines are the offspring of humans; further, this "offspring" is for the purpose of destroying life. This is just one symptom of the mechanized perspective that reveals its dysfunctionality. It is probably not coincidental that a leading theory on the origin of the universe is referred to as the "Big Bang."[68]

Today, the familiar image of Earth in space reflects the attempted distance from the planet. In this modern age, "we have left the

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61. BRIAN EASLEA, FATHERING THE UNTHINKABLE 60 (1983) (quoting astrophysicist G.E. Hale).

62. *Id.*

63. *See id.* for a thorough analysis of this problem.

64. *Id.* at 140.

65. *Id.*

66. *Id.* at 94.

67. *Id.* at 103.

68. Brian Swimme, *How to Heal A Lobotomy*, *in* REWEAVING THE WORLD 15, 18 (Irene Diamond & Gloria Feman Orenstein eds., 1990) ("no great surprise that we [physicists] would automatically come up with images of shrapnel and exploding bombs.").

cathedral."[69] As noted above, scientific disciplines developed an objectified image of nature. With NASA's "God's eye view," the "narrative and mythic Earth imagery [was] replaced by this static and literal photographic image."[70]

Photography is an aspect of technology through which we can "deny the subjectivity of what we view" and "transform[] the external world into a spectacle, a commodity, a manipulable package."[71] In western culture's fascination with photographic images, seen in everything from magazines, billboards, and advertising to the pictures of a weekend photographer, images are small packages of an objectified reality.[72] By condensing these images we can control them; pictures of Earth represent control over it. Through this distancing from Earth, we more easily accept planetary degradation: we see Earth as outside ourselves and as such damage to Earth affects less, if at all.

The perception that we can somehow increase Earth's elements through technology indicates strikingly human alienation from its environment. For example, physicist Vandana Shiva criticizes engineers and others in the business of water management as depending on the fallacy that one can "*create* water and have the power to 'augment' it."[73] She argues that this idea is dangerous since we are merely participants in the water cycle. She notes that "water . . . . can be diverted and redistributed and it can be wasted, but the availability of water on Earth is united and limited by the water cycle."[74]

Despite the precision of mathematics and the laws of physics, we live in a time of ambiguity. The "certainty that technology and science would improve the human condition is mocked by the proliferation of nuclear weapons, by massive hunger in the Third World, and by poverty in the First World."[75] The promise of technological improvement of our lives appears broken. Instead, we have surrendered our culture to a technopoly.[76]

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69. Yaakov J. Garb, *Perspective or Escape? Ecofeminist Musings on Contemporary Earth Imagery*, *in* REWEAVING THE WORLD 264, 266 (Irene Diamond & Gloria F. Orenstein eds., 1990).

70. *Id.* at 267.

71. *Id.* at 268.

72. If "through the photographic act we [are] denied our subjectivity, . . . [then] we will be denied the respect and mutuality that obtains bwtween two subjects." *Id.*

73. *See* SHIVA, *supra* note 56, at 182-83.

74. *Id.* at 183.

75. BOOKCHIN, *supra* note 6, at 20.

76. POSTMAN, *supra* note 58, at 71-72.

C. Federalist Politics and Utilitarian Theory

Plato and Aristotle debated the utility of private property ownership in assuring individual autonomy from a group.[77] Today property may be thought of as a barrier between the individual and the government, and therefore, it protects the individual from tyranny by the majority. The needs of the community demand, however, that the individual yield when that individual wishes to disrupt the ecosystem. Although this approach runs counter to the Federalist position, such an approach does not contradict the Federal Constitution. Further, political autonomy can be maintained through means other than valuing the liberty to exploit property to its highest economic use.

Much of our environmental crisis can be attributed to the reductionist view of land as a commodity. Real property "must be viewed as land, not as money with trees on it."[78] The modern utilitarian theory of property fails because of its assumption that all entitlements have prices.[79] Land is not simply a good, it is a source of life,[80] but the "ecological value of land is left out of the traditional land use equation."[81] A perspective so one-dimensional as to recognize only the exchange value of a source of life "ignores the interrelatedness of land and other natural resources and of users and non-users."[82] A pragmatic approach to takings claims, for instance, combined with the recognition that interests in fungible property deserve less Constitutional protection than personal interests would overcome the externality problem posed by the utilitarian theory.

One might argue here that this proposal injects subjective and therefore untrustworthy values into a system of law. The utilitarian theory is just as subjective as any other, however. All human systems

77. Aristotle responded to Plato's ideas of group ownership in THE REPUBLIC by observing that "those who own common property, and share in its management, are far more often at variance with one another than those who have property in severalty." Jeb Rubenfeld, *Usings*, 102 YALE L.J. 1315, 1355 (1993).

78. Donald W. Large, *This Land Is Whose Land? Changing Concepts of Land As Property*, 1973 WIS. L. REV. 1039, 1081 (1973). An example of the reductionist paradigm at work is the misperception that a forest equals commercial wood only, or that wood amounts only to pulp and paper. SHIVA, *supra* note 56, 24. The market recognizes only the forest's value as commercial wood, so all resources are much devalued on the market; *Cf.* Frank B. Cross, *Natural Resource Damage Valuation*, 42 VAND. L. REV. 269, 302-09 (1989) (describing how market valuation operates).

79. Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 984-85 n.94 (1982).

80. Lynda L. Butler, *Private Land Use, Changing Public Values, and Notions of Relativity*, 1992 B.Y.U. L. REV. 629, 649-50 (1992) (asserting that a source of life cannot be fungible).

81. *Id.* at 656.

82. *Id.* at 640-41.

are shaped by the biases and ideologies of the humans developing such systems.

An example would be the Federalist position that the Constitution should "foster and rely upon the private interest, not public virtue; the talented few would run the government; the large republic would create a great distance between the people and their representatives."[83] The Federalists believed that democracy carried with it the danger of oppression by the majority.[84] Private property interests were to protect the autonomy of the individual against the majority. Economic inequality results from vesting power in the few, however, and the Anti-Federalists posed legitimate arguments about the danger of corruption resulting from such a concentration of power.[85] As we know from our republican form of government, the Federalist ideology prevailed.

Examination of the Federalist ideology reveals false premises that appear to result from personal biases of the propertied against those who do not own property. To illustrate, take the premise that some persons will always be poor, and economic inequality, therefore, is unavoidable.[86] Along with this premise is the Federalists' recognition that an industrial capitalist system is a system of workers and managers, and, thus, one of inequality.[87] The Federalists reasoned then that the masses are dangerous as a result of such inequality. In this way they justified a detached representative government to protect against this dangerous poor majority.[88]

This argument has force, but the point is that we must accept the initial premise that some will always be poor. In fact the more accurate premise is that some will always be poor in a capitalist system.[89] Because the capitalist system is one construct, the results of which are not dictated by all possible constructs, then we cannot assume in a vacuum the accuracy of the premise that some will always be poor.

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83. Jennifer Nedelsky, *Confining Democratic Politics: Anti-Federalists, Federalists, and the Constitution*, 96 HARV. L. REV. 340, 347 (1982).

84. *Id.*

85. *Id.*

86. *Id.* at 348.

87. Nedelsky, *supra* note 83, at 349.

88. *Id.*

89. Commercial development characteristic of capitalism has been argued persuasively as a cause of poverty. *See* Shiva, supra note 11. Shiva also uses the example of famine in Ethiopia to make her point:

> Displacement of nomadic Afars from their traditional pastureland in Awash Valley by commercial agriculture (financed by foreign companies) led to their struggle for survival in the fragile uplands which degraded the ecosystem and led to the starvation of cattle and the nomads.

SHIVA, *supra* note 56, at 11.

The Federalists feared oppression by the majority in a democratic society and viewed private property interests as protecting the individual from such oppression.[90] The Federalists consequently made certain the "just compensation" clause was included in the Bill of Rights to the Federal Constitution.[91] David Hume and Jeremy Bentham greatly influenced the thinking of Madison on this issue, and their views must be examined to understand the current emphasis on property interests as sustaining individuality.

David Hume theorized from the proposition that humans are "initially in an atomistic, nonsocial situation."[92] People's selfishness moves them to associate with others; "gregariousness or . . . sympathy" has nothing to do with it.[93] Parcelization then proceeds as rules of property develop to protect against people abusing the associations made among themselves. This objective analysis reduces the rules of property to "merely an artifact—a human invention, a social institution, a means of organization," as opposed to the prior theories resting on more organic premises.[94] Jeremy Bentham popularized Hume's view and stated that property "is most aptly regarded as the collection of rules which are presently accepted as governing the exploitation and enjoyment of resources."[95] Today, the utilitarian theory based on Hume's ideas, is the most popular view on property.[96]

The practical consequences of such a view include the false presumption that humans begin as solitary beings, somehow separate from their society.[97] Further, the utilitarian theory assumes that selfishness is the primary motivating force behind human interaction over resources. Additionally, implicit in the view is the notion that property rules are an objective system of organizing people, when in fact property rules cannot be objective since humans develop societal rules within their cultural context.

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90. Nedelsky, *supra* note 83 at 347.

91. U.S. CONST. amend. V.

92. Frank I. Michelman, *Property, Utility, and Fairmess: Comments on the Ethical Foundantions of "Just Compensation" Law,* 80 Harv. L. Rev. 1165, 1208 (1967).

93. *Id.* at 1209-10.

94. JESSE DUKEMINIER & JAMES KRIER, PROPERTY 137-38 (2nd ed. 1988). Property theories developed by John Locke and Immanuel Kant and Georg Hegel have a basis in natural law: Locke posits that mixing one's labor with land renders the person the owner of the land; Kant and Hegel see property ownership as a means of developing one's personal identity. *See id.* at 133-37.

95. *See* Michelman, *supra* note 92, at 1211.

96. DUKEMINIER AND KRIER, *supra* note 94, at 138.

97. Common sense dictates this conclusion. We do not begin our existence as solitary beings separate from our mothers' wombs, and we do not sustain our existence after maturity as solitary beings separate from our community and co-workers and employers.

The utilitarian theory fosters the perception that land is nothing but a resource for exploitation. Property rights are seen as promoting "the efficient use of resources."[98] "Efficiency" is maximizing welfare: total gains exceed total losses.[99] In determining conflicts over the use of property, courts frequently require damages to be paid rather than issue an injunction that would prohibit or make unprofitable economic activity. Problematic in this framework is the fact that "anyone who is prepared to pay the cost to [a right holder] of an injury will not be deterred from inflicting it."[100] Thus, a bottom-line mentality grows, and land is no longer seen as a source of life, but a source of maximizing gain. This mentality seems to be at the root of the takings claims challenging land use regulations and environmental legislation.

A second perception about property that causes resistance to corrective regulations restricting use of the environment is the idea that a person's independence of will is compromised by state interference in private ownership of land. Such interference "instrumentalizes the owner."[101] Property is seen as essential to effective protection by the Bill of Rights since political rights presuppose that members of society act independently from the government and by their own will.[102] Property's function is to maintain "independence, dignity and pluralism in society by creating zones within which the majority has to yield to the owner [even where] the owner may do what all or most of his neighbors decry."[103] Jeb Rubenfeld qualifies this broad idea with the statement that "Constitutional guarantees . . . prevent specifically political abuses. Their indispensable point is to ensure political—not individual—autonomy."[104] Corrective regulations

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98. DUKEMINIER AND KRIER, *supra* note 94, at 45.

99. *See* Michelman, *supra* note 92, at 1173. For a criticism of the utilitarian approach in property, see MARK SAGOFF, *supra* note 6, at 192.

> The idea that law attempts to allocate property rights efficiently, for example, by minimizing transaction costs, assumes the Lockean principle that the property rights are *there*, already defined, for law to help to allocate in efficient and equitable ways . . . . Without government in place—without a statutory framework, a legal culture, and a well-ordered society under law there are no property rights. . . . one has to understand that the legitimate power of courts, regulatory agencies, zoning boards, and legislatures . . . . *create* [rather than] *correct* markets.

Id.

100. WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW 30 (1987).

101. *See* Rubenfeld, *supra* note 77, at 1144.

102. Charles Reich, *The New Property*, 73 YALE L.J. 733 (1964).

103. *Id.* at 771.

104. Rubenfeld, *supra* note 77, at 1142. Please note that the assumption of human (male) autonomy is part of the structure of male supremacy in western culture. *See supra* note 9 and accompanying text.

restricting environmental uses are then perceived as threatening the balance between autonomous individual and the tyrannical majority.

On the other hand, courts compromise the independence and dignity of those seeking to enjoin environmentally degrading conduct by preferring the remedy of damages to that of an injunction. Because the veto power implicit in a right to injunctive relief could "bring the economy to a screeching halt," utilitarians reject such a remedy even where the petitioner has a right to that relief.[105] Protection under only liability rules can and does undermine societal values implicit in property ownership.[106]

Property is a contested concept, however, and we should not be fooled into thinking that Madison's view as well as his words merit constitutional significance.[107] The just compensation clause does not prevent debate on the issue of what property rules should protect.[108] Current critiques of the liberal view of property outlined above assert that "the myth of the self-contained 'man' in a state of nature [is] politically misleading and dangerous. Persons are embedded in language, history, and culture, which are social creations; there can be no such thing as a person without society."[109] The "individualistic worldview that flowered in society with the industrial revolution"[110] can and should be modified according to our current environmental crisis, which the focus on individualism in part created.[111] Because "property rights are relative as between private parties" and a "set of relations which vary over time,"[112] no one should be surprised that our concept of property rights must adapt to changing societal needs.

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105. SAGOFF, *supra* note 6, at 176.

106. *See* BOOKCHIN, *supra* note 6; SAGOFF, *supra* note 6; Radin, *supra* note 79; Laura S. Underkuffler, *On Property: An Essay*, 100 YALE L.J. 1127 (1990).

107. Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents In the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1688 (1988). *See also* Butler, *supra* note 80, at 652-54 (stating that the Constitution is a document of compromise and therefore does not require a specific political viewpoint).

108. For instance, the Critical Legal Studies movement asserts that fixed property rights can promote domination by the wealthy of the poor and denigrate the community ideal. *See* Roberto Mangabeira Unger, *The Critical Legal Studies Movement*, 96 HARV. L. REV. 561 (1983).

109. *See* Radin, *supra* note 79, at 965.

110. *Id.*

111. This is true because the "autonomous" individual has no need to consider ill effects of that individual's choices on the community. Poor land use decisions necessarily result from an alienated attitude of landowners from their environments.

112. *See* Butler, *supra* note 80, at 660.

D. Imperialism

1. Pioneer Tradition

Lynda Butler asserts that the historical origin of our land use expectations lie in the "pioneer tradition."[113] Pioneers viewed the environment as a barrier to their access to necessities like food and shelter.[114] The Indian nations presented another barrier to the European expansion, but perhaps the colonists' approach is best summed up in *Caldwell v. State*:[115] "the wildman . . . . knows not the value of any of the comforts of civilized life: he claims no definite boundary of territory," and since Indian nations "make no actual and constant use, [the Europeans] may lawfully possess it and establish colonies there."[116]

The tension between the Indian peoples and the European settlers seems to reflect in part the tension between seeing land as a source of life and seeing land as nothing but its exchange value. For instance, Tashunka Witko, also known as Crazy Horse, stated that "one does not sell the earth upon which the people walk."[117] He apparently did not treat land as a resource easily converted into money. Similarly, Chief Joseph said, "I never said the land was mine to do with as I chose. The one who has the right to dispose of it is the one who created it. I claim a right to live on my land, and accord you the privilege to live on yours."[118] The value system reflected here would not allow land to be reduced into a fungible good because of the inherent restriction on the right to dispose of the land.

One of the most striking examples of the wrong-headed approach to land of our pioneer tradition (and of the cultural imperialism of the United States) was the increased tension between whites and the Indians concerning precious metals on reservation property. Once gold was discovered in the Black Hills, the Federal Government made efforts to purchase that part of the Sioux reservation. The Black Hills are sacred to the Sioux, however, and therefore not easily converted into money. No price was agreed on, and the Sioux stood firm in their resolve to retain the Hills.

The agents of the government recommended that Congress appropriate a fair amount for the purchase and force the sale. It was

113. Butler, *supra* note 80, at 636.
114. *Id.* at 637 n.34.
115. 1 Stew. & P. 327 (Ala. 1832).
116. *Id.*
117. *See* DEE BROWN, BURY MY HEART AT WOUNDED KNEE 273 (1970).
118. *See* Large, *supra* note 78, at 1041 n.13.

said that avoiding conflict in the West required obtaining possession of the Hills for white miners.[119] The whites valued the Hills for their mining potential. Their conversion of the Hills into a fungible good appears to have been unquestioned by white culture.[120] Further, the invasion of sacred land of the Sioux indicates the conversion of culture itself into a fungible item. A part of one's identity should not be an alienable property right, transferable on the market, regardless of so-called economic efficiency.[121]

2. Capitalism

With the "philosophy that the world was a vast machine made of inert particles in ceaseless motion," came the "time when new and more efficient kinds of machinery were enabling the acceleration of trade and commerce."[122] The development of industry was "compatible with the image of the mechanical cosmos."[123] The "death of the world soul and the removal of nature's spirits" removed cultural constraints against environmental interference such as the mining, deforestation, and use of transportation developments associated with the industrial revolution.[124] In the context of capitalistic economies such as ours, "[n]ature is unproductive."[125] This is because Earth's cycles do "not produce profits and capital" unless they are developed.[126]

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119. *See* BROWN, *supra* note 117, at 284.

120. The Indian peoples were "exterminated" where they resisted giving up their homeland. *Id.* at 388 (used by governor of Colorado in reference to the Ute nation, who were also facing pressure from white miners wanting their resources).

Similarly, areas in Latin America were reduced to their weight in precious metals. The Spanish and Portuguese mined gold and silver there, developing the typical mercantilism economy of colonialization. The areas with the largest source of cheap labor received the most Spanish influence; thus, cultures were reduced to their members' labor capability. *See* LATIN AMERICAN POLITICS AND DEVELOPMENT 8, 13, 578 (Howard J. Wiarda & Harvey F. Kline eds., 1990).

121. The enslavement of African people also reflects the perverse reductionism of life and cultural identity into monetary terms (of course, enslaved people did not get the market value of themselves). Prostitution and pornography are part of the same dynamic, making sexuality a marketable item (and how often do the people used in these industries receive the market value of their sexuality?).

122. MERCHANT, *supra* note 12, at 226-27.

123. *Id.* at 227.

124. *Id.*

125. Shiva, *supra* note 11, at 191.

126. *Id.* at 192. Shiva takes issue with the term "development" as well and refers to the phenomenon as "maldevelopment" since it subverts natural processes and leads to exploitation of living organisms, particularly humans. *Id.*

Capitalism has been criticized as "a system that promotes and depends on wasteful consumption."[127] The movement of our culture through industrial expansion has lead to a reductionism of "human life to working" and "gorging"[128] in that needs are created for the purpose of an "uninterrupted flow of any and all goods which invention allows the economy to produce."[129] A society "based on competition and growth for its own sake must ultimately devour the nature world," since destruction of resources, rather than creation, is the norm.[130] Additionally, capitalism assertedly "severed the relationship of the producer to the consumer, eliminating any sense of ethical responsibility of the former to the latter."[131]

Corporations "[i]n the name of private property and free enterprise," may "pollute the air, water, and soil we all share."[132] Corporate activity indicates that these criticisms of capitalism cannot be easily dismissed.[133] For example, Occidental Chemical Corporation, Hooker Chemical Company, Dow Chemical, and Shell Oil produced at different times the pesticide DiBromoChloroPropane (DBCP). Yet test results of the chemical had demonstrated that exposure resulted in liver and kidney damage, sperm cell damage, the shrinking of testicles, cancers, and death.[134]

Working conditions promoted extended exposure, but employers did not warn workers of the hazards of the chemical.[135] Because the chemical was dripped into irrigation water, consumers suffered exposure and so did children who played in streets flooded with

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127. Chaia Heller, *For the Love of Nature: Ecology and the Cult of the Romantic, in* ECO-FEMINISM 219, 238 (Greta Gaard ed., 1993). She also criticizes the assumption that this flaw is "inherent within 'human nature.'" *Id.*

128. JACQUES ELLUL, THE TECHNOLOGICAL SOCIETY 221 (John Wilkinson trans., 1964). The reductionism of humanity to working capacities is another way of describing the problem of exploitation of the working class.

The reductionism is probably also linked to the Protestant work ethic and the idea of a covenant of works with the Christian god. Ellul states that the development of a work morality resulted in "[a] kind of economic predestination" where "[h]uman destiny seemed to revolve about the making of money or the failure to make it." *Id.* at 220. This dynamic could be the source of the rhetoric of the "deserving" and "undeserving" poor surrounding welfare issues. *See, e.g.*, CHARLES MURRAY, LOSING GROUND: AMERICAN SOCIAL POLICY 1950-1980 (1984).

129. ELLUL, *supra* note 128, at 221.

130. BOOKCHIN, *supra* note 6, at 15.

131. *Id.* at 187.

132. Cynthia Hamilton, *Coping with Industrial Exploitation, in* CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 63, 65 (Robert D. Bullard ed., 1993).

133. *See* RUSSELL MOKHIBER, CORPORATE CRIME AND VIOLENCE (1988) for an extensive cataloguing of dangerous corporate activity and a critique of the lack of enforcement or passage of pertinent legislation that would hold corporations accountable.

134. *Id.* at 142.

135. *Id.* at 140.

irrigation water.[136] The companies did not want to withdraw the product despite the danger to public health and safety; instead, they weighed the costs and benefits by assessing the likelihood and extent of liability if they continued to manufacture the product[137] Such preoccupation with profit in the face of causing human suffering reflects the reductionist paradigm at work in the industrial setting. If it is profitable to create circumstances that lead to the destruction or debilitation of living organisms, then the rational choice for a capitalist is to ignore ethical considerations.

Love Canal is a well-known example of such profit-driven behavior. Hooker Chemical and Plastics Corporation dumped at the site 20,000 tons of at least 200 chemical substances, such as benzene (known to cause leukemia), chloroform and trichloroethylene (carcinogens), and dioxin (one form of which has been referred to as "the most poisonous small molecule known").[138] Hooker sold the property for one dollar. The property was not marked as a dumping site, and children often played there. One afternoon, a child fell into a muddy ditch and returned to his mother "covered with this oily goo."[139] The company denied any responsibility for the resulting diseases and deformities suffered by Love Canal residents. They did finally settle a lawsuit for twenty million dollars to be distributed among over 1,000 plaintiffs.[140] Children born to exposed persons suffer blindness, ear deformities, heart disorders, and liver and kidney problems.[141]

Reserve Mining Company also used the environmentally reckless approach. The company mined hard rock for iron and disposed of the crushed rock by mixing it with water and dumping the waste into Lake Superior,[142] which of course played a vital role in the surrounding community. The Environmental Protection Agency (EPA) initiated a suit against Reserve Mining, and after four years, Reserve Mining was enjoined in 1980 from dumping its 67,000 ton-a-day refuse into Lake Superior.[143] Now, Reserve Mining dumps on land.[144] The full effects on Lake Superior and those living on the north shore there are unknown, but asbestos fibers were among the

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136. *Id.* at 146.

137. *Id.* They were held liable for damages in later court proceedings. Such cost-benefit analyses indicate that health and life are viewed as fungible goods by the analyzer.

138. *Id.* at 270.

139. *Id.* at 269.

140. *Id.* at 275.

141. *Id.* at 273.

142. *Id.* at 384.

143. *Id.* at 390.

144. *Id.*

waste dumped in the lake that served as a drinking supply, a recreational source, and a fishing source.

The most egregious corporate acts demonstrate in themselves that the decision makers are alienated from the effects of their choices. The "sheer impersonality of vast markets" alienates the manufacturer from those who are harmed by unsafe products or waste.[145] An example of such alienation lies in a statement by an anonymous chemical company executive, who said, "[a]s long as these people can't be *identified*, as long as they're not *specific* people, [neglecting to pay the cost for eliminating waste from drinking water is] OK. So you put a filter on your own house and try to protect yourself."[146]

Not all adverse effects of environmental degradation can be accounted for as costs of doing business. For instance, for the people living at Prince William Sound, the 1989 Valdez accident resulted in long term effects such as higher rates of vandalism, rape, sexual abuse, and wife battering since the spill.[147] Similarly, Love Canal survivors suffer depression and some have committed suicide; again, the market takes inadequate account of effects.[148] Even if the polluters pay the cleanup costs of these disasters, they are not held fully responsible because the difficulty of establishing legal proximate cause frustrates potentially well-deserved tort liability. Without forcing environmental degraders to take full account of the costs of their messes, these human costs will continue to go unrecognized and unmitigated.

Environmental justice is an issue receiving increasing attention.[149] Poor communities bear a disproportionate amount of risk associated with exposure to toxic substances. Members of the dominant culture "assume that poor people are concerned first and foremost with improving their immediate economic condition. Poverty, the reasoning goes, makes poor people willing to accept certain risks that

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145. JONI SEAGER, EARTH FOLLIES 85 (1993).

146. *Id.* (quoting ROBERT JACKALL, MORAL MAZES: THE WORLD OF CORPORATE MANAGERS (1988)).

147. *Id.* at 95-99.

148. *Id.* at 80.

149. *See, e.g.*, Vicki Been, *Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?*, 103 YALE L.J. 1383 (1994); Colin Crawford, *Strategies for Environmental Justice: Rethinking CERCLA Medical Monitoring Lawsuits*, 74 B.U.L. REV. 267 (1994); Rachel D. Godsil, *Remedying Environmental Racism*, 90 MICH. L. REV. 394 (1991); Rodolfo Mata, *Hazardous Waste Facilities and Environmental Equity: A Proposed Siting Model*, 13 VA. ENVTL. L.J. 375 (1994); Omar Saleem, *Overcoming Environmental Discrimination: The Need for a Disparate Impact Test and Improved Notice Requirements in Facility Siting Decisions*, 19 COLUM. J. ENVTL. L. 211 (1994).

others would not."[150] Communities of color are easy targets for waste disposal and waste-to-energy incinerators partly because of low property values.[151]

The above instances show that the utilization of a "resource"[152] for industrial purposes yields detrimental effects to less powerful members of the community. Yet regulated land owners and facility operators argue that corrective measures place burdens on them they should not have to bear. Harsh effects from development and exploitation of Earth and other life forms do not end with industry, however.

E. Militarism

The military has been called the biggest threat to our environment because of its activities whether at war or in peace.[153] The problem is exacerbated by "militaries feed[ing] on and fuel[ing] the masculinist 'prerogative' of men conquering nature."[154] Additionally, the military discourages an "environmentally responsible consciousness" through its prioritization of national security over compliance with national environmental standards.[155] Such a privileged status multiplies the

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150. Conner Bailey et al., *Environmental Politics in Alabama's Blackbelt*, *in* CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS 107, 116 (Robert D. Bullard ed., 1993). The authors note that Sumter County, Alabama's waste landfill was brought into the community by a white-controlled county commission. *Id.*

151. Hamilton, *supra* note 132, at 70. She proposes "decentralized, local, and regional approaches to development, production for use, and the greening of urban environments as well as preservation of the wild" as a solution. *Cf.* Robert J. Sitkowski, *Commercial Hazardous Waste Projects in Indian Country*, this volume.

152. The meaning of this word itself suggests the attitude that arguably has caused the problems we face today. If we continue to view land, water, air, and other species as assets or fungible goods to be utilized for commercial gain, we will continue to behave in an unsound manner, as a species alienated from the ecosystem and therefore destructive to it. This is because we have separated one aspect of a resource, its commercial value, from other values associated with the resource. Such separation grinds against the grain of nature's logic, which starts with the premise that everything is interdependent and connected.

153. SEAGER, *supra* note 145, at 15. *Cf.* Kirstin S. Dodge, *Countenancing Corruption: A Civic Republican Case Against Judicial Deference to the Military*, 5 YALE J.L. & FEMINISM 1 (1992); Courtney W. Howland, *The Hands-Off Policy and Intramilitary Torts*, 71 IOWA L. REV. 93 (1985); Cary Ichter, *"Beyond Judicial Scrutiny": Military Compliance with NEPA*, 18 GA. L. REV. 639 (1984); Barry Kellman, *Judicial Abdication of Military Tort Accountability: But Who Is to Guard the Guards Themselves?*, 1989 DUKE L.J. 1597 (1989); Kenneth M. Murchison, *Reforming Environmental Enforcement: Lessons From Twenty Years of Waiving Federal Immunity to State Regulation*, 11 VA. ENVTL. L.J. 179 (1992); Michael L. Richmond, *Protecting the Power Brokers: Of* Feres, *Immunity, and Privilege*, 22 SUFFOLK U. L. REV. 623 (1988); Stephanie N. Simonds, *Conventional Warfare and Environmental Protection: A Proposal for International Legal Reform*, 29 STAN. J. INT'L L. 165 (1992).

154. SEAGER, *supra* note 145, at 15.

155. *Id.*

extent of the environmental degradation the military has caused through experimental bombings and disposal of waste.

For instance, Vietnam's forests have suffered irreparable damage from the dumping of twenty-five million gallons of defoliants and toxins in the military's effort live up to their Vietnam creed, "[o]nly we can prevent forests."[156] The Vietnamese lost twenty-five million acres of farmland as a result of the military's dropping twenty-five million bombs.[157] Consequently, hazardous floods occur three times as often as before the war, farmers have turned to heavy pesticide use in an effort to increase production, and runoff has poisoned the water supply.[158] Over eight million people are starving because the soil cannot sufficiently support agriculture for the population.[159]

More recently, our military caused significant environmental harm in the war with Iraq. The "apocalyptic" conditions caused by the strategic bombing of the U.S.-led coalition include many thousands of homeless persons, epidemics, and food shortages.[160] These conditions will be complicated once Iraqis feel the consequences of water pollution resulting from the bombings on nuclear and chemical facilities, which were located on the Tigris River.[161] Furthermore, the EPA estimated that the oil fires in Kuwait created ten times as much air pollution as that emitted by all U.S. power-generating plants combined.[162]

The Reagan Administration was remarkably callous toward the destruction caused by the drug war, in which the military was used. For instance, the administration wished to have Peruvian coca plants killed by using a chemical called "Spike," which can render an area barren for up to five years. Eli Lilly, a manufacturer of "Spike," refused to sell it to the government based on inadequate testing for its effects on human health. Reagan aides said the Eli Lilly executives were "hysterical," and "going AWOL in the war on drugs."[163] The

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156. *Id.* at 17, 19.

157. *Id.* at 17.

158. *Id.*

159. SEAGER, *supra* note 145, at 18. Vietnamese women suffer the highest spontaneous abortion rate in the world and deliver fetuses deformed by Agent Orange. *Id. See also* MOKHIBER, *supra* note 133, at 75 (1988) for more details on the effects of Agent Orange and the corporate culpability for the injuries caused by exposure.

160. SEAGER, *supra* note 145, at 20.

161. *Id.* at 20-21. Pollution of the Tigris River, which empties into the Persian Gulf, will contribute to the pollution of the Gulf and its fish, aquatic vegetation, and wildlife. *Id.*

162. *Id.* It is too easy to deny U.S. responsibility by pointing out who started the oil fires. The destruction was in response to U.S. aggression against Iraq, and all parties to a war must take partial responsibility for all retaliatory or reactionary actions.

163. SEAGER, *supra* note 145, at 29-30. The judgments implicit in these criticisms reflect a challenge to the manhood of the executives at Eli Lilly. Interestingly, "hysterical" is a distinctly

administration did not choose another chemical; it bought "Spike" from another company.[164] Unfortunately, the poor in Latin America grow coca among the food crops.

Civil wars in Central America involve less obvious examples of the U.S. military's contribution to environmental degradation. The political struggles have caused significant "soil erosion, pesticide poisonings, water pollution, and wildlife extinctions."[165] Bombs and defoliants have destroyed eighty percent of El Salvadoran forests; pesticides cause more deaths in Nicaragua than anywhere else on the planet; and indiscriminate herbicide spraying in Guatemala has polluted food and water supplies as well as poisoned all exposed species.[166] Responsibility for the degradation might appear to be in part a result of the large population of Central American poor consuming natural resources.[167] In fact, the elite and military of Central American nations, and by extension through monetary support and military training, the United States and the former Soviet Union, must take full responsibility.[168]

A more direct example of the military's environmental insanity lies in the suffering of the Pacific islanders at the hands of the U.S. military's "peacetime" bombing for decades after World War II[169] Some 200 explosions have rendered homelands uninhabitable for

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feminine and negative term, with its root in the Greek for "uterus," which reflects the male supremacist perspective behind much environmentally irresponsible behavior.

164. *Id.* at 30.

165. *Id.* at 24.

166. *Id.* at 24-28.

167. Heller, *supra* note 127, at 225 ("'overpopulation' in the Third World contributes little to the overall depletion of the earth's resources. It is rarely considered that one white middle class person in the United States consumes three hundred times the food and energy mass of one Third World person"). Similarly, Vandana Shiva has calculated that:

> Our global energy conversion from all sources (wood, fossil fuel, hydroelectric power, nuclear power, and so on) at the present time [1990] is . . . more than twenty times the energy content of the food necessary to feed the present world population at the United Nations Food & Agriculture Organization's standard diet of 3,600 calories a day.

Shiva, *supra* note 11, at 196. This supports the assertion that rather than a scarcity of resources being responsible for the starvation of so many people, actually the situation is a result of resource allocation.

168. *See generally* John A. Booth, *Nicaragua: Revoltion Under Seige, in* LATIN AMERICAN POLITICS & DEVELOPMENT 467, 473, 477-78 (Howard J. Wiarda & Harvey F. Kline eds., 1990); Roland Ebel, *Guatemala: The Politics of Unstable Instability, in* LATIN AMERICAN POLITICS & DEVELOPMENT 498, 503, 507, 514 (Howard J. Wiarda & Harvey F. Kline eds., 1990). This book includes other articles demonstrating that the military and elite of Latin American countries make all important resource exploitation decisions as well as the extent to which the financial backing of the United States and the former Soviet Union contributed to ecological destruction.

169. SEAGER, *supra* note 145, at 63.

25,000 years or "vaporized" in military language.[170] Cancer proliferates, deformities occur in children at high rates, and often "jellyfish" babies, having no recognizable human shape because of malformed heads and limbs, are the result of pregnancies.[171]

At home, our military has a similar record. The Pentagon "produces more toxic waste than the five largest American chemical companies combined."[172] Nonetheless, we rarely learn through the media of environmental harm caused by the military or regulation limiting the military's environmentally insane behavior. When a community in Virginia confronted the officer in charge about the local base leaking PCBs, the officer replied, "we're in the business of protecting your country, not the environment."[173] Residents of a Jacksonville, Florida suburb had to abandon their neighborhood once they discovered that a Navy waste dumping site, located under their homes, contained leaking and surfacing drums of toxins.[174] The American Army's Rocky Mountain Arsenal in Denver, Colorado has been called one of the most toxic places on the planet.[175] Further, a congressional report has stated that cleaning up places contaminated by the military may be impossible.[176]

In solving our environmental problems, society must examine carefully who or what generates destructive dynamics and situations. Some criticize the large human population as a cause of our environmental problems. The presumption that humans en masse are unhealthy for the planet is simply false. The corporate managers, military officers, and other business people (primarily male and primarily members of white cultures) are the responsible parties.[177]

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170. *Id.* at 63-64. Our military did not always warn neighboring people of the bombings. Neither did our military restore the islanders to any position of health and security after destroying their homes.

171. *Id.* at 66. The babies are multi-colored, often hairless, and unable to live more than a few hours after birth. *Id.*

172. *Id.* at 31. That amounts to at least one third of all hazardous waste produced in the United States; the military "routinely generates toxic waste that includes cyanides, acids, heavy metals, PCBs, phenols, paints, and contaminated sludge." *Id.* at 33.

173. *Id.* at 37. PCB's cause cloracne, nausea, abnormal menstruation, impotence, headaches, and diarrhea in humans. MOKHIBER, *supra* note 133, at 364. Other possible effects shown through experiments involving monkeys demonstrate that PCB's can cause a high rate of miscarriage, some uterine growths, and some sterility. One half of the offspring born alive in these experiments died within four months of birth. *Id.* at 370.

174. SEAGER, *supra* note 145, at 31-32.

175. *Id.*

176. *Id.* at 33. Additionally, the military secretly using its own personnel reflects the disrespect for life inherent in military activities. For instance, after the Korean conflict, the Army tested veterans without their consent for the effects of nuclear explosions on humans. *See* Nancy Hogan, *Shielded from Liability*, ABA JOURNAL, May 1994, at 56.

177. SEAGER, *supra* note 145, at 36. One survey showed that women occupied only 44 of some 1,015 national security policy-making positions in the United States. *Id.* at 38. Further,

There are enough resources for all, but currently they are malapportioned.[178]

III. WHAT PROPERTY MEANS TO US

As the European settlers in North America developed the territory of the Indian nations into U.S. property, the perception that owning land included a right to earn a profit off the land arose. This "right" included the power to "change the very essence of the land, if necessary, to obtain that profit."[179] *Pennsylvania Coal Co. v. Sanderson*[180] has language that reflects the law's recognition of this "right." A neighbor to the coal company sued for damages caused by the company's operations and prevailed in a lower court.[181] The Supreme Court reversed and noted that a property owner "may cut down the forest trees, clear and cultivate his land, although in so doing he may dry up the sources of his neighbor's springs, or remove the natural barriers against wind and storm."[182] The Court continued, stating that "the rightful use of one's own land may cause damage to another, without any legal wrong. Mining in the ordinary and usual form is the natural user of coal lands. They are, for the most part, unfit for any other use."[183]

This factual judgment could not have been correct. Perhaps the underlying statement was that the land could not have been used profitably by the coal company in any other way. The policy of the Court in rendering this decision becomes clear with the Court's statement that "the leading industrial interest of the state" could carry on their business in the ordinary way without being held "accountable" for the consequences of doing business.[184] The Court emphasized the role of gravity as the source of the damage plaintiffs suffered.[185]

Early in this century, the Court demonstrated its support of the reductionist attitude in *Pennsylvania Coal Co. v. Mahon*.[186] The Court

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white males hold 95% of the top management positions of the largest of the United States' corporations. *Id.* at 82. Male control of the military and government is also indicated by the common phrase "old boy networks" used by Americans. *Id.* at 118.

178. "There is enough in the world for everyone's need, but not for some people's greed." SHIVA, *supra* note 56, at 6 (quoting Mahatma Gandhi).

179. *See* Large, *supra* note 78, at 1044 nn.22-24.

180. 6 A. 453 (Penn. 1886).

181. *Id.* at 453.

182. *Id.* at 456.

183. *Id.* at 457.

184. *Id.* at 457.

185. *Id.*

186. 260 U.S. 393, 415 (1922) (stating as the general rule that "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking").

stated in that case that where a regulation renders mining unprofitable, the regulation "appropriat[es] or destroy[s]" coal.[187] The coal company had acquired only mining rights to a parcel, and the Court stated that "we cannot see that the fact that their risk has become a danger warrants the giving to them greater rights than they bought."[188] The government that required the coal company to leave some coal underground to protect against subsidence, however, apparently recognized that the separation of rights to a parcel into surface rights and mining rights can be impracticable. With the right to mine the coal went the responsibility to protect against subsidence, according to the regulation. The Supreme Court held that requiring the company to exploit safely their rights burdened the company's rights so as to require compensation.[189]

Recently the United States Supreme Court decided a takings case, *Lucas v. South Carolina Coastal Council,*[190] that may point to a trend by the Court toward economic determinism. Mr. Lucas, the plaintiff, wanted to build on his barrier island property but was prohibited from doing so for health and safety as well as environmental concerns.[191] The Court held that where "*all* economically beneficial uses [are sacrificed] in the name of the common good, that is, to leave his property economically idle, he has suffered a taking."[192] Such a ruling presumes that economic development "rights" are so essential to property ownership that compromising this one aspect of ownership requires compensation for the entire parcel.[193]

The Court has earlier ruled that "destruction of one 'strand' of the bundle [of property rights] is not a taking."[194] This ruling as well as the holdings in *Penn Central Transp. Co. v. City of New York*[195] and

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187. *Id.* at 414.

188. *Id.* at 416.

189. *Id.*

190. 112 S. Ct. 2886 (1992).

Commentators have criticized this case extensively. *See, e.g.*, Daniel R. Mandelker, *Of Mice and Missiles: A True Account of* Lucas v. South Carolina Coastal Council, 8 J. LAND USE & ENVTL L. 285 (1993). *See also* Michael C. Blumm, *A Colloquium on Lucas: Property Myths, Judicial Activism, and the Lucas Case*, 23 ENVTL. L. 907 (1993) for a general critique of the Court's departure from precedent.

191. 112 S. Ct. at 2889.

192. *Id.* at 2895 (emphasis in original). In contrast, *Pennsylvania Coal* stated that diminution in value is "one fact for consideration" in the takings analysis. Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 413 (1922).

193. Certainly, one person should not be required to bear the entire burden of regulation for the benefit of the community. On the other hand, Stevens' dissent indicates that Mr. Lucas had notice that development would be restricted when he purchased the property.

194. Andrus v. Allard, 444 U.S. 51, 65-66 (1979).

195. 438 U.S. 104 (1978).

Keystone Bituminous Coal Ass'n v. DeBenedictis[196] demonstrate that in deciding takings claims, courts must look at the parcel as a whole. The inconsistency of *Lucas* is apparent, and without overruling the previously mentioned cases, the Court has introduced yet another level of uncertainty into takings jurisprudence. Looking at the parcel as a whole has been the standard practice of the Court, but *Lucas* signals a preference for categorical rules over the pragmatic balancing held to be appropriate in *Penn Central*.

Today, a clash of values over protecting property rights has developed.[197] Libertarians argue property law must support individual liberty, privacy, and self determination; communitarians argue that property law must support equality and thick social ties.[198] Classical liberalism cannot justify persons' use of property as a means of controlling others, yet the power associated from private property ownership does allow such abuse.[199] Currently, those seeking to develop land to its highest economic use regardless of environmental consequences represent that group of owners who are abusing their power as owners. Refusing to order compensation for the interference with the twig referred to here as the liberty to exploit neither compromises environmental concerns nor libertarian values because political autonomy can be achieved without profit maximization.

Neither the Federal Constitution nor takings jurisprudence requires the courts to compensate developers when regulation or other governmental action limits the liberty to exploit.[200] Courts must use their inherent authority to modify the common law so as to protect the community from the environmental degradation that results from property owners' drive for profit maximization. Devaluing the liberty to exploit associated with real property ownership will render categorical rules irrelevant to the takings inquiry.[201] Some may argue that such a step is unnecessary, that adjustments in favor of increased

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196. 480 U.S. 470 (1987).

197. For treatment of the conflict in Florida, see David J. Russ, *How the "Property Rights" Movement Threatens Property Values in Florida*, 9 J. LAND USE & ENVTL. L. 395 (1994).

198. Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315, 1352 (1993).

199. See Radin, *supra* note 79, at 980, for an extended discussion of this problem. *See, e.g.*, State v. Shack, 277 A.2d 369 (N.J. 1971) (owner *qua* owner interfering with the rights of association of migrant workers temporarily residing on owner's property).

200. Frank I. Michelman uses this phrase in *Property, Utility and Fairness: Comments on the Ethical Foundation of "Just Compensation" Law, supra* note 92, at 1187 n.45.

201. *See* Butler, *supra* note 80, at 655 (stating that the traditional expectation of exploitative use of land is no longer viable or reasonable). Changing the law of nuisance would be an obvious solution, but that will not be explored here because such a change would require the lengthy process of common law development among the states. Faster positive results for our environment will accrue if the United States Supreme Court returns to a balancing approach that acknowledges community values.

property right protection should be implemented instead.[202] Such an attitude contributes to the environmental crisis by refusing to acknowledge its existence.

IV. REACHING FOR A SOLUTION

Some assert that addressing the ecological crisis requires more than a change in the doctrine of our property system; rather, it has been argued that private property itself must be abolished.[203] Perhaps such a drastic change will be necessary to solve the problem; however, if transformation of systems already in place can be done, then this less destabilizing change is desirable. Private property ownership may not guarantee political independence in any case because of the growing power of government.[204] Private wealth depends more and more on a relationship with the government. Some free enterprise operations do business only with the government and enjoy "public generosity" in the form of government contracts. Many receive the benefit of using public resources such as grazing lands for nominal cost and may seek to profit from this use. "Power over a man's [sic] subsistence amounts to a power over his [sic] will."[205]

As public and private spheres cross over, a new line of privacy must be drawn. More and more people cannot depend on private property to protect their independence. Current property lines no longer suffice since benefits upon which we depend for survival could be withdrawn without compensation.[206] Additionally, as right holders depend less on any private property interests for assurance of political independence, protecting economic interests in private property has less legitimacy, especially in the context of environmental needs. Margaret Jane Radin suggests a solution that would aid courts in respecting the environmental needs of society.[207] She proposes a property system that respects personal interests in property over interests in property that are fungible.[208]

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202. *See generally* Russ, *supra* note 197.

203. BOOKCHIN, *supra* note 6, at 189 ("The precondition for a harmonious relationship with nature is social: a harmonious relationship between human and human. This involves [in part] the abolition of . . . private property.").

204. *See* Reich, *supra* note 102.

205. *Id.* at 787.

206. *Id. See also* Large, *supra* note 78, at 1040 (stating that a "vast majority of people are more dependent for their economic well-being on their status rather than on any proprietary interest they may have in the land.").

207. Radin, *supra* note 79.

208. *Id.*

She refers to *Lynch v. Household Finance Corp.*[209] as supporting her theory.

> the dichotomy between personal liberties and property rights is a false one. . . . In fact, a fundamental interdependence exists between the personal right to liberty and the personal right in property. Neither could have meaning without the other. That rights in property are basic civil rights has long been recognized.[210]

She sees the personal right in property as referring to "an individual being bound up with an external 'thing.'"[211] She criticizes the objectivism inherent in the libertarian focus on "autonomy" as the interest served by rights and liberties.[212] The "abstract rationality" reflected in the notions of autonomy and control of one's external environment "fails to convey this sense of connection with the external world."[213] She asserts that "a person cannot come to exist without both differentiating itself from the physical environment and yet maintaining relationships with portions of that environment."[214] Therefore, a system respecting the personal nature of rights reflects reality more accurately.

She explains her distinction between fungible property and personal property with the statement that "[o]ne may gauge the strength or significance of someone's relationship with an object by the kind of pain that would be occasioned by its loss."[215] For instance, a wedding ring may be both fungible and personal property. A jeweler who makes a wedding ring will have less personal connection to the ring than a devoted spouse who will wear it. The ring's worth to the jeweler is probably limited to its exchange value, whereas the same ring may be irreplaceable to the devoted spouse.[216] To ask how much the spouse would pay to protect the ring indicates how much society is dependent on the market to assign value to what we call property. The point is that money cannot accurately sum up all values.

She proposes that "the more closely connected with personhood, the stronger the entitlement."[217] Fungible property rights can be related to personhood, but she suggests that where a property right is fungible, "there is a prima facie case that that right should yield to

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209. 405 U.S. 538 (1972).
210. *Id.* at 552.
211. *See* Radin, *supra* note 79, at 960.
212. *Id.*
213. *Id.*
214. *Id.* at 977.
215. *Id.* at 959.
216. *Id.*
217 *Id.* at 986.

some extent in the face of conflicting recognized personhood interests."[218] On the other hand, recognized personhood interests will not include those that rise to the level of a fetish.[219] Those who live "only for material objects" are considered to be "lacking some important attribute of humanity."[220] Such an observation would apply to developers who might assert that their identity is wrapped up in their ability to accumulate profit.

In a later article, Radin addresses takings law specifically.[221] She supports the "essentially ad hoc factual inquiries"[222] the Court has used in the past; such pragmatism is "holistic" and "is much feared because of its particularism, because of its wholehearted embrace of the contextuality of everything."[223] This approach conforms to the ecological perspective that all is interconnected[224] and protects against the recent problems of conceptual severance[225] and market failure[226] in takings law. Accordingly, she states that "some kind of 'compelling state interest' test for compensated takings of personal, but not fungible, property seems to be appropriate."[227] Further, *per se* rules have no place in such an approach.[228]

Whether the judiciary should be the institution to implement this change in property law is not clear. "Courts . . . are far too removed from the voice of the citizenry, and judges' backgrounds are too homogeneous and distinct"[229] to assure appropriate judicial action. Activist courts can provide leadership, however, "[p]articularly where there is a presumption of legitimacy, as in the case of Supreme Court opinions."[230] Because of the many checks on judicial power, "[f]ears of judicial tyranny are unwarranted."[231] Property law is common law,

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218. *Id.* at 1014-15.

219. *Id.* at 961.

220. *Id.*

221. *See* Radin, *supra note* 107, *at* 1680-81.

222. Penn Central Transp. Corp. v. City of New York, 438 U.S. 104, 124 (1978).

223. *See* Radin, *supra* note 107, at 1680-81.

224. Lynda Butler's analysis *supra* note 80 supports this approach.

225. The problem of conceptual severance occurs when a court makes the mistake of looking at the effects on only one aspect of the property of regulation or other governmental action. The *Penn Central* decision makes clear the precedent of viewing the "parcel as a whole." Radin proposes specifically that the court disfavor conceptual severance. *See* Radin, *supra* note 107, at 1681.

226. The market is not an efficient means of allocating resources or reflecting societal values since not all personal satisfaction can be measured with material means. *See* Michelman, *supra* note 92, at 1173.

227. *See* Radin, *supra* note 107, at 1691.

228. *Id.* at 1687.

229. Mark Seidenfeld, *A Civic Republican Justification for the Bureaucratic State*, 105 HARV. L. REV. 1511, 1542 (1992).

230. Van Doren, *supra* note 14, at 633.

231. *Id.*

and judges have legitimate authority to modify outdated common law concepts. The valid criticism concerning the lack of diversity among judges can be overcome in the short term[232] if judges question thoroughly the cultural context in which property issues have been decided and apply that analysis to their own assumptions about what property ownership means. Responsibility accompanies the right to use and enjoy property, and if such a right continues to be maintained, owners must recognize their responsibilities to society. Science has proven the interconnectedness of natural phenomena; property lines are artificial constructs.

V. CONCLUSION

Private property is in place to protect our political autonomy and serves as a basis for an ordered society. Devaluing the liberty to exploit does not undermine the role private property plays in our culture. Indeed, circumstances demand that we respond to our environmental crisis by curbing the self-indulgence of some for the preservation of the community. At no time has the Constitution granted persons the ability to abuse their liberties. Developers and industrialists can no longer be permitted to transform their twig to exploit into a club. Further, the federal government must take more responsibility for military action that degrades the environment and violates human rights.

The environmental crisis should put owners on notice of potential regulation of their property. Although restrictions on exploiting property certainly will disappoint investors and will affect the market's stability, we must recognize that such demoralization is minimal compared to the importance of preserving our health and safety in the context of a dying ecosystem. All organisms have a legitimate interest in the wise and sane use of the planet's resources, and humans should use responsibly their advantages over other life forms. Restricting the liberty to exploit during this crisis appears to be a fair answer.

Reductionist thinking, a characteristic of an alienated value system, must be openly critiqued before we can devalue the liberty to exploit. Evidence demonstrates that the dangerous view of Earth as a replaceable, fungible good leads to the death of ecosystems. Bol-

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232. All groups in our culture should have adequate representation on the bench; otherwise, the judiciary's legitimacy will remain questionable. The power of the judiciary must be used responsibly in the context of our diverse and complex culture and the needs of exploited and disenfranchised groups. Whether the judiciary is "politically accountable" in the technical sense is irrelevant to this issue.

stering the foundation of societal systems with holistic values will renew respect for living matter. The persons responsible for the environmental destruction must learn from cultures that do not engage in an alienated thought process that objectifies and mechanizes organisms and planetary cycles. We can all get what we need from Earth and each other if we curb the domineering impulses of those who strive to get always what they want.