

# HABITAT AND SPECIES CONSERVATION IN THE EUROPEAN UNION AND THE UNITED STATES

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## I. INTRODUCTION

In recent decades, environmental issues have assumed international significance. Though many environmental efforts focus on pollution control, nature conservation also plays an increasingly important role. Government programs to conserve important natural sites have long existed, but scientists and policymakers have recently emphasized the significance of continued biological diversity and the preservation of ecosystems. An important element in preserving biodiversity is the protection of endangered and threatened species and the habitats necessary for their survival.

This Article focuses on habitat and species protection in the European Community (EC) and the United States (US). After sketching some background information about relevant international treaties, and EC environmental policy and lawmaking, this Article looks more closely at two important EC measures, the Wild Birds Directive and the Habitats Directive. It

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then considers habitat and species protection in the US, particularly through the Endangered Species Act, management of land under federal ownership, and wetlands protection. Though the following discussion focuses primarily on legislative measures at the levels of the EC and the US federal government, it must be recognized that significant programs enacted by EC Member States and individual states within the US also make important contributions to habitat and species protection.

## II. HABITAT AND SPECIES PROTECTION IN THE EUROPEAN COMMUNITY

### A. Background

#### 1. *Treaties*

Several international treaties, to which the US and/or the EC have acceded, protect vulnerable species or valuable habitats and form important background to the Habitats Directive. The 1971 Ramsar Convention,<sup>1</sup> for example, was one of the first major international treaties designed to protect habitat. Based on recognition of the significance of wetlands, the Convention obligates each signatory to "designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance"<sup>2</sup> and to "promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands."<sup>3</sup>

The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)<sup>4</sup> protects endangered species by restricting trade. Export and import of endangered species require a government permit, which can be granted only when trade will not be detrimental to survival of the species, the specimen was not obtained contrary to state nature protection laws, and shipment will not result in injury or cruel treatment.<sup>5</sup> Appendices to CITES identify categories of endangered species, with the most vulnerable

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1. Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Feb. 2, 1971, 996 U.N.T.S. 245 (entered into force Dec. 21, 1975) [hereinafter Ramsar Convention]. An important Protocol to the Convention, which made technical changes and provided a procedure for amendment, was completed on Dec. 3, 1982, in Paris, and became effective on Oct. 1, 1986. *Id.* art. 10.

2. *Id.* art. 2(1). For urgent national interest, a contracting party can delete or restrict the boundaries of a wetland in the list, but it should then compensate for loss of wetland resources, creating additional nature reserves for waterfowl and to protect their habitat. *Id.* art. 4(2).

3. *Id.* art. 4(1). The Convention encourages consultation among signatories and conferences on the conservation of wetlands. *Id.* arts. 5, 6.

4. Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 993 U.N.T.S. 243 (1976) (entered into force July 1, 1975) [hereinafter CITES]. For a discussion of several treaties (including CITES, Ramsar, Bonn, UN Convention on Biodiversity), see Kees Lankester, *Internationale natuurverdragen in de praktijk*, 22 MILIEU & RECHT 222 (1995). Lankester suggests that international treaties help to encourage nations to protect species, but unless additional motives apply, the treaties will not prevent harm to nature. *Id.* at 225.

5. CITES, *supra* note 4, arts. 3-5.

being most severely regulated. In implementing CITES, the EC aimed at uniform protection within the Community<sup>6</sup> and, for some sensitive species, provided even stricter protection than the Convention required.<sup>7</sup>

Two other international agreements were concluded in 1979. The Bonn Convention on the Conservation of Migratory Species of Wild Animals<sup>8</sup> was intended to promote research relating to migratory species, to protect identified endangered migratory species, and to devise plans to conserve and manage threatened species. Nations are asked to conserve and, if possible, restore habitats that are crucial for ensuring survival of endangered species and to prohibit the taking of endangered animals.<sup>9</sup> The Berne Convention on the Conservation of the Wildlife of Europe's Natural Environment<sup>10</sup> was designed to ensure conservation of wild flora and fauna and their natural habitats, with particular emphasis on endangered and vulnerable species, by promoting cooperation among the European states. The Council of the EC approved both the Bonn and the Berne Conventions for the Community.<sup>11</sup>

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6. Council Regulation 3626/82 on Trade in Endangered Species of Wild Fauna and Flora, 1982 O.J. (L 384) 1, *amended by* Commission Regulation 558/95, 1995 O.J. (L 58) 1. In 1996, the Council issued Common Position 26/96 with a view to adopting Council Regulation No. .../96 on the Protection of Species of Wild Fauna and Flora by Regulating Trade Therein, 1996 O.J. (C 196) 3. The new regulation would repeal Council Regulation 3626/82, *supra*, in favor of a measure reflecting current scientific knowledge and trade structure. The European Parliament approved the measure in September 1996; if signed by the Council within 3 months, it will become effective Jan. 1, 1997. 19 Int'l Env't Rep. (BNA) 869 (1996). CITES is implemented in part in the Netherlands by the *Wet bedreigde uitheemse diersoorten*, Schuurman & Jordens 80A (1992 & Supp. 1993).

7. See STANLEY P. JOHNSON & GUY CORCELLE, THE ENVIRONMENTAL POLICY OF THE EUROPEAN COMMUNITIES 242-43, 306 (1989). Both the EC and Member States may ratify international environmental conventions, but Member States normally carry out the terms of the conventions. The EC monitors Member State enforcement of such conventions only to the extent that provisions are enforceable under Community law. Ludwig Krämer, *The Interdependency of Community and Member State Activity on Nature Protection Within the European Community*, 20 ECOLOGY L.Q. 25, 33 n.43, 35 n.65 (1993).

8. Convention on the Conservation of Migratory Species of Wild Animals, Nov. 22, 1973, 19 I.L.M. 11 (1979) [hereinafter Bonn Convention].

9. *Id.* arts. 2, 3.

10. Convention of European Wildlife and Natural Habitats, Nov. 22, 1973, Euro. T.S. No. 104 (1979) [hereinafter Berne Convention].

11. Council Decision 82/461, 1982 O.J. (L 210) 10 (Bonn Convention); Council Decision 82/72, 1982 O.J. (L 38) 1 (Berne Convention). More recently, the Convention on Biodiversity was opened for signatures in June 1992 and entered into force in Dec. 1993. United Nations Conference on Environment and Development: Convention on Biodiversity, 31 I.L.M. 822. By Oct. 1994, 168 countries had signed the Convention, and 91, including the EC, had ratified or acceded to it. David R. Downes, *The Convention on Biological Diversity: Seeds of Green Trade?*, 8 TUL. ENVTL. L.J. 163, 163 (1994). Though the Convention recognizes the intrinsic value of biodiversity (including genetic resources) and offers a global framework for its conservation, the language of the Convention is permissive, imposing few legal rights and duties on states, and few means of ensuring accountability of signatories are provided. See Ellen Hey, *Increasing Accountability for the Conservation and Sustainable Use of Biodiversity: An Issue of Transnational Global Character*, 6 COLO. J. INT'L ENVTL. L. & POL'Y 1, 5, 12-13 (1995).

International agreements may have been an important influence in the development of the Wild Birds and Habitats Directives. Such agreements already obligated many European nations to take positive action to protect habitats and wild species and provided European leaders with proof of widespread support for aggressive action on the behalf of habitats, flora, and fauna.<sup>12</sup> Moreover, the structures of the Wild Birds Directive and the Habitats Directive mirror these international agreements.<sup>13</sup>

## 2. Authority for Environmental Lawmaking

The Treaty of Rome<sup>14</sup> did not explicitly provide Community competence in environmental matters, and neither the word "environment" nor the concept of environmental protection appeared in the Treaty.<sup>15</sup> Nonetheless, in 1973 the Council began to articulate an environmental policy by adopting the first Environmental Action Program.<sup>16</sup> A number of environmental measures were enacted on the basis of general Treaty articles,<sup>17</sup> and the Court of Justice acknowledged that environmental protection was one of the Community's "essential objectives."<sup>18</sup>

The Community's authority to adopt environmental legislation was formalized in the Single European Act (SEA),<sup>19</sup> effective July 1, 1987. The SEA was intended to abolish internal borders in the Community, while making significant amendments in the Treaty. In particular, the SEA provided clear authority for Community environmental measures in a new Title VII on the environment and a new article on harmonization.<sup>20</sup>

The Treaty on European Union (Maastricht Treaty),<sup>21</sup> effective November 1, 1993, represents a further Community commitment to the environment.

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12. The Commission's recommendation to the Council in support of ratification of the Ramsar and Paris Conventions stated, "Public opinion is coming to consider migratory birds more and more as a common heritage and not as the exclusive property of the country where they may be at any given time." Commission Recommendation 75/66 to Member States Concerning the Protection of Birds and Their Habitats, 1974 O.J. (L 21) 24, 25 [hereinafter Commission Recommendation 75/66].

13. The EC has also enacted measures intended to protect whales and seal pups. See JOHNSON & CORCELLE, *supra* note 7, at 239-42.

14. TREATY ESTABLISHING THE EUROPEAN ECONOMIC COMMUNITY [hereinafter EEC TREATY].

15. Ludwig Krämer, *The Single European Act and Environment Protection: Reflections on Several New Provisions in Community Law*, 24 COMMON MKT. L. REV. 659, 659 (1987).

16. *Id.* at 660.

17. Article 100 of the Treaty permits enactment of directives required to harmonize Member State laws when the establishment or functioning of the common market is directly affected. EEC TREATY, *supra* note 14, art. 100. Article 235 permits enactment of measures necessary to attain one of the Community's objectives when the Treaty does not grant the specific power. *Id.* art. 235.

18. Case 240/83, *Procureur de la République v. Association de défense des brûleurs d'huiles usagées*, 1985 E.C.R. 531, 549.

19. SINGLE EUROPEAN ACT, 1987 O.J. (L 169) 1.

20. *Id.* arts. 130r-130t, 100a.

21. TREATY ON EUROPEAN UNION, 1992 O.J. (C 191) 1.

The Maastricht Treaty created the European Union, with the goals of enhanced economic and monetary union and intergovernmental cooperation. Significantly, the Maastricht Treaty provides that the development of environmental policy is now included among the tasks of the Community. The crucial integration principle states that "[e]nvironmental protection requirements must be integrated into the definition and implementation of other Community policies."<sup>22</sup>

The environment Title of the Treaty, enacted in the SEA and amended in the Maastricht Treaty, establishes the objectives and principles of Community environmental policy. Community policy must aim at a high level of protection; it must be based on the precautionary principle, which suggests that measures to avoid environmental damage should be part of Community policy. Further principles guiding the policy are that "preventive action should be taken, that environmental damage should . . . be rectified at source, and that the polluter should pay."<sup>23</sup> The Title sets out the legislative processes for enacting different types of environmental measures and identifies situations in which Member States may be allowed to apply more stringent environmental measures.<sup>24</sup>

### 3. *Environmental Policy*

An increasing EC focus on nature and habitat, which culminated in the Habitats Directive, can be traced in EC environmental policy statements. Beginning in 1973, even before its authority to enact environmental measures was formalized, the Council has adopted five Environmental Action Programs (EAPs) that significantly influenced EC environmental measures.<sup>25</sup> Each of these EAPs (which, in reality, make up a single Program) focused to some extent on nature protection.<sup>26</sup> In the First EAP, which linked nature protection with agriculture, the only specific proposal concerned a measure to

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22. *Id.* art. 130r(2).

23. *Id.*

24. *Id.* art. 130s. Some environmental measures may also be enacted under article 100a, when they relate to establishment of the internal market. *Id.* art. 100a.

25. The five EAPs are published in the Official Journal of the European Communities: Council Declaration on the Programme of Action of the European Communities on the Environment, 1973 O.J. (C 112) 1 [hereinafter First EAP]; Council Resolution on the Continuation and Implementation of a European Community Policy and Action Programme on the Environment, 1977 O.J. (C 139) 1 [hereinafter Second EAP]; Council Resolution on the Continuation and Implementation of a European Community Policy and Action Programme on the Environment (1982-1986), 1983 O.J. (C 46) 1 [hereinafter Third EAP]; Council Resolution on the Continuation and Implementation of a European Community Policy and Action Programme on the Environment (1987-1992), 1987 O.J. (C 328) 1 [hereinafter Fourth EAP]; Council on a Community Programme of Policy and Action in Relation to the Environment and Sustainable Development, 1993 O.J. (C 138) 1 [hereinafter Fifth EAP].

26. For extensive discussion of nature protection in the first four EAPs, see Krämer, *supra* note 7, at 28-38. Krämer noted that early attempts at Community action in this area were extremely cautious: "In its early days, the EC did not make nature protection a high priority, primarily because Member States were concerned about the future of their national jurisdiction, including their authority to enact nature protection legislation." *Id.* at 28.



prevent "the large-scale destruction of birds, particularly songbirds and migratory birds, and more generally to protect the existence of certain animal species threatened with extinction."<sup>27</sup>

The Second EAP contained a chapter on "Fauna and Flora Protection," which declared that because "[w]ild flora and fauna are part of mankind's common heritage" they must be provided effective protection.<sup>28</sup> Because the majority of Member States still believed that the Community lacked authority to adopt nature protection legislation, the Second EAP contained few concrete proposals.<sup>29</sup> It called for consideration of the proposed Wild Birds Directive and urged Member States to accede to the Ramsar Convention and CITES.<sup>30</sup> The Program's general support for international nature protection efforts led to the Community's approval of the Berne and Bonn Conventions and the enactment of CITES into Community law.<sup>31</sup>

The Third EAP explicitly recognized the need for Community, as opposed to national, action in the area of nature protection:

The protection of [flora and fauna] . . . requires specific measures and, to make these effective, the Community provides an important stage between the national level (often too narrow a base) and the world level (where the institutional framework for binding action is entirely lacking). . . . As to the collection of wild fauna and flora, national rules would have to be harmonized to an adequate extent, while respecting the variety of national situations. . . . While it is recognized that local, regional and national responsibilities are decisive in [the conservation of habitats], . . . a Community framework is becoming essential if greater cohesion is to be given to such efforts. Such a framework would ensure that a network of properly protected biotopes, sufficient in both extent and number, and interlinked in a rational fashion, was set up and maintained.<sup>32</sup>

With this recognition, the Third EAP called for action in three areas: habitat conservation, regulation of the taking of wild fauna and flora, and control of trade in endangered species.<sup>33</sup>

The Fourth EAP, promulgated after enactment of the Single European Act, emphasized the need for "important developments in the field of nature

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27. First EAP, *supra* note 25, at 40. After the First EAP, further focus on protection of birds and their habitats appeared in both a Commission recommendation and a resolution of the European Parliament. Commission Recommendation 75/66, *supra* note 12, at 24; Parliament Resolution, 1975 O.J. (C 60) 51.

28. Second EAP, *supra* note 25, at 25.

29. Krämer, *supra* note 7, at 32.

30. Second EAP, *supra* note 25, at 26-28. Further, the Second EAP ordered studies on ways of improving protection of marine mammals and on the role of hunting laws for conserving animal species.

31. See Krämer, *supra* note 7, at 32; Council Decision 82/72, 1982 O.J. (L 38) 1 (Berne); Council Decision 82/461, 1982 O.J. (L 210) 10 (Bonn); Council Regulation 3626/82, 1982 O.J. (L 384) 1 (CITES).

32. Third EAP, *supra* note 25, at 130.

33. *Id.*

conservation," noting that preservation of "nature and habitat, landscape, fauna and flora" assumed much public importance.<sup>34</sup> It emphasized enforcement of existing nature protection directives, including the Wild Birds Directive.<sup>35</sup> The Fourth EAP laid the policy foundation for the Habitats Directive:

What essentially is needed is a Community instrument aimed at protecting not just birds but all species of flora and fauna; and not just the habitats of birds, but the habitats of wildlife—animal and plant—more generally. Such a comprehensive framework should ensure that, throughout the Community, positive measures are taken to protect all forms of wildlife and their habitat.<sup>36</sup>

The Fifth EAP, "Towards Sustainability,"<sup>37</sup> is the most detailed and comprehensive of the programs. Enacted after the Habitats Directive, it targets five sectors for special attention.<sup>38</sup> One of the themes of the Fifth EAP is to protect nature and biodiversity, particularly through "sustainable development and management in and around natural habitats of European and global value."<sup>39</sup> This effort involved maintenance or restoration of habitats and species, and creation of the network of protected sites, *Natura 2000* authorized by the Habitats Directive.<sup>40</sup> Both the Wild Birds and the Habitats Directives are important components of this policy.

### B. The Directives

Natural habitats and wild species form an important part of the Community's natural heritage and face threats that make EC measures necessary. Habitat destruction, in particular, "constitutes the most serious threat to flora and fauna in Western Europe."<sup>41</sup> Thus, the Wild Birds Directive<sup>42</sup> and the

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34. Fourth EAP, *supra* note 25.

35. *Id.* at 29-30.

36. *Id.* at 31. An important development after adoption of the Fourth EAP was enactment of the LIFE program. Council Regulation 1973/92 Establishing a Financial Instrument for the Environment (LIFE), 1992 O.J. (L 206) 1. LIFE was established to fund priority environmental action in the Community with forty-five percent to be allocated for protection of habitats and of nature. *Id.* art. 1, Annex. Projects recently funded from the LIFE instrument are listed at 1994 O.J. (C 385) 43, 44-48.

37. Fifth EAP, *supra* note 25 (including Part I (Council Resolution) and Part II (Program)). Part III, The State of the Environment in the European Community, is published as COM(92)93 final.

38. *Id.* at 14. The sectors are industry, energy, transport, agriculture, and tourism. These have "particularly significant impacts" for the environment and "crucial roles to play in the attempt to achieve sustainable development." *Id.*

39. Fifth EAP, *supra* note 25, at 44.

40. Council Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora, 1992 O.J. (L 206) 7, 15 [hereinafter Habitats Directive].

41. Krämer, *supra* note 7, at 45.

42. Council Directive 79/409 on the Conservation of Wild Birds, 1979 O.J. (L 103) 1 [hereinafter Wild Birds Directive].

Habitats Directive<sup>43</sup> together form an ambitious program to promote the maintenance of biodiversity and to slow the destruction of habitat in Europe.

### 1. *The Habitats Directive*

The Habitats Directive offers a Community-wide framework for the conservation of plants, animals, and natural habitats by establishing "a coherent European ecological network of special areas of conservation," *Natura 2000*.<sup>44</sup> The network will include the special protection areas established under the Wild Birds Directive. The Habitats Directive focuses on maintaining biodiversity, and prescribes measures designed to "maintain or restore, at favorable conservation status, natural habitats and species of wild fauna and flora of Community interest."<sup>45</sup> Most importantly, the Habitats Directive protects those habitat types<sup>46</sup> and species in greatest need of protection—the natural habitat types and species of Community interest. Even within this group, the most vulnerable habitat types and species are labeled "priority."<sup>47</sup> In addition, the Directive protects less severely threatened species of animals and plants.<sup>48</sup>

*Natura 2000* is intended to protect habitats and species in the priority category, which includes over 170 habitat types, almost 200 animals, and more than 400 plants, identified in annexes to the Directive.<sup>49</sup> Each Member State must "contribute to the creation of *Natura 2000* in proportion to the representation within its territory of the natural habitat types and the habitats of species" that must be protected.<sup>50</sup> That is, each Member State is to designate special areas of conservation, on the basis of objectives, criteria,<sup>51</sup> and

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43. Habitats Directive, *supra* note 40.

44. *Id.* art. 3(1), at 10. For a discussion of the Habitats Directive, see Nicolas de Sadeleer, *La Directive 92/43 CEE concernant la conservation des habitats naturels ainsi que de la faune et de la flore sauvages: vers la reconnaissance d'un patrimoine naturel de la Communauté Européenne*, 364 REVUE DU MARCHÉ COMMUN ET DE L'UNION EUROPÉENNE, Jan. 1993, at 24. See also John O'Sullivan et al., *Saving Europe's Wildlife? The EC Habitats Directive*, 7 RSPB CONSERVATION REV. 61 (1993).

45. Habitats Directive, *supra* note 40, art. 2(1), (2), at 9-10.

46. The Directive distinguishes between natural habitats and habitats of species. *Id.* art. 1(b), (f), at 8-9. Both identified natural habitats and the habitats of the identified species receive protection. *Id.* art. 3(1), at 10.

47. *Id.* art. 1(h), at 9.

48. *Id.* art. 1(g)(ii)-(iv), at 9.

49. Birds are not, however, listed in the annexes, but will be protected through the Wild Birds Directive. Because the Wild Birds Directive does not use the priority concept, it is unclear if or how the Habitats Directive's stricter protection for priority species should apply. See O'Sullivan et al., *supra* note 44, at 62.

50. Habitats Directive, *supra* note 40, art. 3(2), at 10.

51. Criteria for Member State selection of sites are included in Annex III, at 37. Site assessment criteria for natural habitat types include:

- (a) Degree of representativity of the natural habitat type on the site.
- (b) Area of the site covered by the natural habitat type in relation to the total area covered by that habitat type within national territory.



procedures set out in the Directive.<sup>52</sup> On the basis of Member State lists and other criteria, the Community will establish a list of sites of Community importance.<sup>53</sup> As soon as a site is listed, Member States must ensure that deterioration of habitats and disturbance of species are avoided.<sup>54</sup> Within six years after listing, each Member State must designate each listed site in that State as a "special area of conservation," using a "statutory, administrative and/or contractual act."<sup>55</sup> Thus the designation, special area of conservation, is legally enforceable.

For each special area of conservation, the Member State must establish conservation measures, including a management plan and enforceable measures that meet ecological requirements of the site.<sup>56</sup> The Directive authorizes

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- (c) Degree of conservation of the structure and functions of the natural habitat type concerned and restoration possibilities.
  - (d) Global assessment of the value of the site for conservation of the natural habitat type concerned.

Criteria for sites designated for protection of identified species are:

- (a) Size and density of the population of the species present on the site in relation to the populations present within national territory.
- (b) Degree of conservation of the features of the habitat which are important for the species concerned and restoration possibilities.
- (c) Degree of isolation of the population present on the site in relation to the natural range of the species.
- (d) Global assessment of the value of the site for conservation of the species concerned.

52. *Id.* arts. 3(2), 4, at 10. The designation must occur within three years of notification of the Directive, and the EC list should be established within six years of notification. *Id.*

53. *Id.* art. 4(2), at 10. Criteria are listed in Annex III, Stage 2. All the sites identified by Member States that contain priority habitat types and/or species are considered sites of Community importance. Further, other sites are evaluated according to the following criteria:

- (a) relative value of the site at a national level;
- (b) geographic situation of the site in relation to migration routes of species listed in Annex II and whether it belongs to a continuous ecosystem situated on both sides of one or more internal Community frontiers;
- (c) total area of the site;
- (d) number of natural habitat types in Annex I and species in Annex II present on the site;
- (e) global ecological value of the site for the biogeographical regions concerned and/or for the whole of the territory

*Id.* at 37.

The Council can add to the list sites not identified by Member States but essential to maintain a priority habitat or species. *Id.* art 5, at 11. Member State cooperation would still be necessary to establish a special area of conservation on that site.

54. *Id.* art. 4(5), at 11. Plans or projects likely to affect the site must be assessed. *Id.* art. 6(3), at 11. If projects having negative implications must be carried out "for imperative reasons of overriding public interest," compensatory measures to ensure the coherence of *Natura 2000* are required. *Id.* art. 6(4), at 11. Sites that host a priority natural habitat type or species are protected more stringently.

55. *Id.* arts. 4(4), 1(1), at 10.

56. *Id.* art. 6(1), at 11.

Community co-financing of Member State costs for maintaining priority habitat types and species on sites of Community importance.<sup>57</sup> EC co-financing, normally at a rate of 50%, fits under the LIFE regulation enacted to fund priority environmental action.<sup>58</sup>

To ensure the "ecological coherence" of *Natura 2000*, the Directive encourages Member States to use their land-use planning and development policies to foster the "management of features of the landscape which are of major importance for wild fauna and flora."<sup>59</sup> These features—for example, rivers, field boundaries, ponds, small woods—are "by virtue of their linear and continuous structure . . . or their function as stepping stones . . . essential for the migration, dispersal and genetic exchange of wild species."<sup>60</sup> The Directive invites Member States to study the possibility of reintroducing native species when doing so would contribute to the conservation of the species, and it also requires control of the deliberate introduction into the wild of any non-native species.<sup>61</sup>

The Habitats Directive requires the protection of species, as well as habitats.<sup>62</sup> For plant and animal species listed in Annex IV of the Directive, Member States must take measures to ensure "strict protection."<sup>63</sup> This means, for animal species, prohibition of deliberate capture, killing, or disturbance of the species or their eggs; prohibition of deterioration or destruction of breeding sites or resting places; and prohibition of transport, trade, or exchange. For plants, strict protection prohibits "deliberate picking, collecting, cutting, uprooting, or destruction of plants in their natural range in the wild," as well as keeping, transporting, selling, or exchanging any of the specimens.<sup>64</sup> Less vulnerable species, listed in Annex V, must be protected when necessary.<sup>65</sup> Exceptions (derogations) from measures concerning these protected species are sometimes possible.<sup>66</sup> Even when derogations are lawful, nonselective means of capture and killing (for example, poisons, explosives) are prohibited.<sup>67</sup>

Implementation of the Habitats Directive in Member States will normally require legislative action.<sup>68</sup> By June 1994, Member State legislation to

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57. *Id.* art. 8, at 11-12.

58. Council Regulation 1973/92, 1992 O.J. (L 206) 1. See de Sadeleer, *supra* note 44, at 30-31.

59. Habitats Directive, *supra* note 40, art. 10, at 12.

60. *Id.*

61. *Id.* art. 22, at 15.

62. *Id.* art. 3, at 10.

63. *Id.* art. 12, at 12.

64. *Id.* arts. 12-13, at 12-13.

65. *Id.* art. 14, at 13.

66. *Id.* arts. 15-16, at 13.

67. *Id.* Annex VI, at 50. Other provisions of the Directive govern Member State reporting requirements, encouragement of research, procedure for amendment, and formation of a Committee to advise the Commission. *Id.* arts. 17-21, at 14-15.

68. In the United Kingdom, for example, a consultation paper suggested that implementation would require amendment of planning legislation, wildlife and countryside legislation, and other laws. Department of the Environment and the Welsh Office,

implement the Directive was to have been enacted; by June 1995, lists of sites were to have been submitted to the Commission. In the Netherlands, for example, implementation of the Directive will be accomplished by an amended Nature Protection Law (*Natuurbeschermingswet*) for protection of geographic areas, and by a new Flora and Fauna Law (*Flora- en faunawet*) for protection of plant and animal species. By July 1995, however, neither law had been enacted.<sup>69</sup> As commentary on the proposed *Natuurbeschermingswet* indicates, however, the existing Nature Protection Law offers some basis for protecting habitats. Valuable areas can be identified as protected natural monuments; actions that harm those areas can be prohibited, and management plans can be required.<sup>70</sup> The amended law would continue to protect natural monuments. A separate chapter in the proposed law would specifically authorize identification of protected areas and enactment of regulations necessary for implementation of international obligations.<sup>71</sup> The proposed Flora and Fauna Law would replace a number of laws protecting various species and would also offer protection to certain (mostly small) habitats. In addition, it would add regulatory flexibility to allow faster compliance with international requirements for species protection.<sup>72</sup>

## 2. Wild Birds Directive

The Habitats Directive was not the Community's first measure for habitat conservation and species protection. Thirteen years earlier, the Council had enacted the Wild Birds Directive<sup>73</sup> after scientific studies had revealed a reduction in the number of bird species and their population levels, primarily from loss of habitat and hunting.<sup>74</sup> The Wild Birds Directive is "one of the most important pieces of EC environmental legislation. It was indeed the first

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Consultation Paper, Implementation in Great Britain of the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC), "The Habitats Directive" (1993).

69. Nieuwe regelen ter bescherming van natuur en landschap (*Natuurbeschermingswet* 1994), Tweede Kamer 23 580, nrs. 1-2 (Vergaderjaar 1993-94); Regels ter bescherming van in het wild levende plante- en diersoorten (*Flora- en faunawet*), Tweede Kamer 23 147, nrs. 1-2 (Vergaderjaar 1992-1993). On protection of plants and animals in the Netherlands, see Floor Toot, *Bescherming van planten en dieren in de Flora-en faunawet*, 22 *MILIEU & RECHT* 197 (1995).

70. Memorie van Toelichting, *Natuurbeschermingswet* 1994, Tweede Kamer 23 580, nr. 3 (Vergaderjaar 1993-94) at 50-51. See *Natuurbeschermingswet*, arts. 7, 12, 14 (Schuurman & Jordens, 1995); Chr. Backes, *Implementatie van de Habitatrichtlijn in het Nederlandse (natuurbeschermings)recht*, 22 *MILIEU & RECHT* 216 (1995).

71. Hoofdstuk VI, arts. 46-48, *Natuurbeschermingswet* 1994, Tweede Kamer 23 580, nr. 2 (Vergaderjaar 1993-94).

72. See Jonathan Verschuuren, *Het ontwerp Flora-en faunawet: implementatie en integratie*, 1994 *REGELMAAT* 9 (No. 1).

73. Wild Birds Directive, 1979 O.J. (L 103) 1. The Wild Birds Directive has been amended several times; the annexes, listing protected species, have been the main subject of amendments.

74. See JOHNSON & CORCELLE, *supra* note 7, at 238-39.

European Directive on the conservation of nature in general."<sup>75</sup> To some extent, the Wild Birds Directive served as the model for the complementary Habitats Directive.

The Wild Birds Directive focuses on conservation (protection, management, and control) of "all species of naturally occurring birds in the wild state in the European territory of the Member States."<sup>76</sup> It applies to birds, eggs, nests, and habitats.<sup>77</sup> The Wild Birds Directive requires Member States to take measures to maintain endangered bird populations at a level that meets "ecological, scientific and cultural requirements, while taking account of economic and recreational requirements."<sup>78</sup> For all bird species covered by the Directive, Member States must preserve, maintain, and re-establish biotopes and habitats.<sup>79</sup> To ensure survival and reproduction of the 175 endangered species listed in Annex I,<sup>80</sup> Member States must take special habitat conservation measures. The most suitable territories must be classified as "special protection areas" for conservation of the protected species and also for migratory species that return regularly. In those areas, Member States must avoid significant pollution and deterioration of habitats and disturbance of birds.<sup>81</sup> The Habitats Directive provides that these special protection areas are to be incorporated into *Natura 2000*.<sup>82</sup>

In addition, the Wild Birds Directive requires Member States to establish a general system of protection for all EC wild bird species.<sup>83</sup> The system should include measures that prohibit the killing, capturing, or keeping of protected birds; destruction, taking or removal of their nests or eggs; the disturbance of birds, especially during breeding and rearing periods; sale, transport or exchange of these birds; and use of all methods for large-scale or nonselective capture or killing of birds.<sup>84</sup> Like the Habitats Directive, the Wild

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75. Commission Report on the Application of Directive No. 79/409/EEC on the Conservation of Wild Birds, COM(93)572 final at 1 [hereinafter Wild Birds Report].

76. Wild Birds Directive, *supra* note 42, art. 1(1), at 2.

77. *Id.* art. 1(2), at 2.

78. *Id.* art. 2, at 2-3.

79. *Id.* art. 3(2), at 3. Measures prescribed in art. 3(2) include:

- (a) creation of protected areas;
- (b) upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones;
- (c) re-establishment of destroyed biotopes;
- (d) creation of biotopes.

80. The list of protected birds in Annex I was amended by Council Directive 85/411, 1985 O.J. (L 233) 1, and Council Directive 91/244, 1991 O.J. (L 115) 41. Annex II was amended by Council Directive 94/24, 1994 O.J. (L 164) 9.

81. Wild Birds Directive, *supra* note 42, art. 4, at 3.

82. Habitats Directive, *supra* note 40, art. 3(1), at 10.

83. Wild Birds Directive, *supra* note 42, art. 5, at 3.

84. *Id.* arts. 5, 6, 8, at 3-4. Some birds, if "legally killed or captured or otherwise legally acquired" may be sold and transported. *Id.* art. 6, at 3-4.

Birds Directive contains derogation provisions, which permit hunting or other activities.<sup>85</sup>

A 1993 EC Commission report noted that the Wild Birds Directive marks a "turning point" in EC environmental policy, imposing nature conservation obligations by providing a legislative framework to protect wild birds and their habitats and helping to maintain diversity in flora and fauna.<sup>86</sup> By April 1991, 667 special protection areas had been designated on 5.5 million hectares, and the biological situation of many species had been improved.<sup>87</sup> Moreover, "hunting is now organised in accordance with the principles of wise use and an ecologically balanced control of the species concerned."<sup>88</sup> Nonetheless, according to the report, some Member States have not fully implemented the Directive. In particular, Member States do not always adequately protect bird habitats, sometimes allowing incompatible development projects and operations to interfere with conservation objectives, and do not adequately restrict hunting.<sup>89</sup> The Commission found, however, that "[d]espite the difficulties in implementing Directive 79/409/EEC, the impact of this piece of Community legislation on the conservation of wild birds has clearly been considerable . . . [and] significant progress has definitely been made."<sup>90</sup>

Difficulties in implementing the Wild Birds Directive are reflected in decisions by the European Court of Justice (ECJ).<sup>91</sup> In environmental matters, the ECJ has helped to shape EC law and policy.<sup>92</sup> In several decisions applying the Wild Birds Directive, the ECJ has interpreted strictly and favored environmental protection. For example, in *Commission v. Belgium*,<sup>93</sup> the Court strictly applied the Directive's restriction of hunting to birds listed in Annex II and the exacting preconditions for derogation, and rejected Belgium's attempt to exempt from protection birds of a different color as not "naturally occurring." In *Commission v. Italian Republic*,<sup>94</sup> the Court invalidated an Italian law allowing hunting of birds not listed in Annex II, denied derogation for lack of evidence, strictly applied the marketing ban in article 6 of the Directive, and allowed delegation of regulatory authority to regions only if the regions were required to follow the obligations of the

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85. *Id.* arts. 7, 9, at 4-5. Provisions similar to those in the Habitats Directive govern scientific research, introduction of new species, monitoring and reporting, and amendments. *Id.* arts. 10-12, 15, at 5.

86. Wild Birds Report, *supra* note 75, at 119.

87. *Id.* at 42.

88. *Id.* at 120.

89. *Id.* at 121.

90. *Id.* at 122.

91. The ECJ bears responsibility for determining whether Member States are implementing Council directives properly. EEC TREATY, *supra* note 14, arts. 146, 189.

92. Matthew L. Schemmel & Bas de Regt, *The European Court of Justice and the Environmental Protection Policy of the European Community*, 17 B.C. INT'L & COMP. L. REV. 53, 54 (1994).

93. *Commission v. Belgium*, Case 247/85, 1987 E.C.R. 3029, 3030.

94. *Commission v. Italian Republic*, Case 262/85, 1987 E.C.R. 3073, 3098-99.



Directive. In *Commission v. French Republic*,<sup>95</sup> the Court invalidated French law that did not ensure uninterrupted protection of bird nests and eggs and that excluded nests and eggs from some birds. The Court rejected the French attempt to protect its own "national biological heritage" instead of all EC species of naturally occurring birds in the wild state, and rejected France's failure to transpose part of the Directive concerning keeping of birds.<sup>96</sup> In *Commission v. Federal Republic of Germany*,<sup>97</sup> the Court allowed a German dike-building project that would reduce the size of a special bird protection area, but only because exceptional grounds existed (flood danger and coastal protection) and minimal disturbance was expected. In *Association pour la Protection des Animaux Sauvages v. Préfet de Maine-et-Loire*,<sup>98</sup> the Court issued a preliminary ruling giving guidance to a national court in connection with hunting seasons. The Court held that closing dates for hunting of migratory species must be set to ensure "complete protection" during pre-mating migration, and that closing dates may not vary according to the species, unless clear evidence shows that staggered hunting dates still allow complete protection of species.<sup>99</sup> Closing dates may, however, vary by region, if complete protection is provided.<sup>100</sup>

These decisions indicate that the ECJ consistently has required full Member State transposition of Wild Birds Directive requirements into national laws and strict compliance with the derogation provisions of the Directive. The Court's opinions reflect the protective goals of the Directive. No case law on the Habitats Directive exists because the Directive is not yet implemented.<sup>101</sup> Given the similarities in purpose and structure between the Wild Birds and the Habitats Directives, the ECJ is likely to take an equally strict approach to enforcement of the Habitats Directive. In fact, one commentator noted that "[e]xperience from the [German dike decision] suggests it is likely that the European Court of Justice will take a restrictive view of the

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95. *Commission v. French Republic*, Case 252/85, 1988 E.C.R. 2243, 2263-64.

96. See also *Gourmetterie Van den Burg*, Case 169/89, 1990 E.C.R. 2143, which was a criminal proceeding in which the ECJ invalidated a Dutch law that prohibited the sale of grouse (not migratory or endangered) that were legally killed in the United Kingdom.

97. *Commission v. Federal Republic of Germany*, Case 57/89, 1991 E.C.R. 883, 927-28. See also *Commission v. Kingdom of the Netherlands*, Case 75/91, 1991 E.C.R. 549, in which the Court issued a judgment against the Netherlands for its failure to comply with an earlier judgment, Case 236/85, 1987 E.C.R. 3989, which had ordered an implementation of the Wild Birds Directive. Laws implementing the directive appropriately had not been enacted by the deadline. In 1993 and 1994, the Dutch *Vogelwet* was significantly amended, in part to comply with the Wild Birds Directive. Schuurman & Jordens 80 (1995).

98. *Association pour la Protection des Animaux Sauvages v. Préfet de Maine-et-Loire*, Case 435/92, 1994 E.C.R. 67, 93.

99. *Id.*

100. As a result of this decision, the Commission has proposed uniform rules for determining hunting seasons for migratory birds. See 1994 O.J. (C 100) 1 (proposed amendment).

101. See Schemmel & de Regt, *supra* note 92, at 55.

circumstances in which the provisions of the Habitats Directive can be overruled for reasons of overriding public interest."<sup>102</sup>

With effective Member State implementation, it has been suggested, the Habitats Directive may be "the most important legislative step taken so far for the conservation of wildlife and wild places in Europe."<sup>103</sup> It may not be a panacea, however. Protection of some habitats and representative ecosystems may not assure maintenance of a satisfactory level of biodiversity. Moreover, the Habitats Directive does not eliminate external effects on protected habitats (for example, from air pollution).<sup>104</sup>

### III. HABITAT AND SPECIES PROTECTION IN THE UNITED STATES

Unlike in the EC, where the Community itself does not own land, the federal government in the US is a significant landowner, and much of its land harbors valuable habitat and vulnerable species. Of course, valuable habitat and species also exist on nonfederal land, often land in private ownership. The federal government enacts laws and bears responsibility for management of its own land. Moreover, constitutional principles of US federalism permit the federal government to regulate many environmental aspects of nonfederal land. Thus, federal laws in the area of habitat and species protection are especially significant. State laws, too, often apply, but these are beyond the scope of this Article. The discussion of habitat and species protection in the US focuses first on the Endangered Species Act, followed by a discussion of species and habitat protection on federal land and a brief discussion of wetlands regulation.<sup>105</sup>

#### A. Endangered Species Act

One important measure for habitat and species protection in the United States is the 1973 Endangered Species Act (ESA).<sup>106</sup> The ESA was intended to provide a way to conserve ecosystems of endangered and threatened species,<sup>107</sup> provide for conservation of the species themselves, and help to imple-

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102. Michael Redman, *European Community Planning Law*, J. PLAN & ENV'T L. 999, 1007 (1993). This decision is viewed as strengthening protection of the Wild Birds Directive. O'Sullivan et al., *supra* note 44, at 62.

103. O'Sullivan et al., *supra* note 44, at 66.

104. See de Sadeleer, *supra* note 44, at 32.

105. The discussion here can address only a few of the many federal and state environmental laws that govern species and habitat protection. For a thoughtful discussion of federal laws affecting biodiversity on nonfederal land, see J.B. Ruhl, *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Nonfederal Lands: Time for Something Completely Different?*, 66 U. COLO. L. REV. 555 (1995).

106. 16 U.S.C. §§ 1531-1544 (1994).

107. An endangered species is "any species [other than an insect pest] which is in danger of extinction throughout all or a significant portion of its range." *Id.* § 1532(6). A threatened species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *Id.* § 1532(20). On the importance of preserving biodiversity at the ecosystem level, see Jason M. Patlis, *Biodiversity, Ecosystems and Species: Where Does the Endangered Species Act Fit In?*, 8 TUL.

ment international agreements (including CITES and others) for protection of various species.<sup>108</sup> Though the mechanics of the ESA focus on protection of species, its purpose is "ecosystem protection and biological diversity."<sup>109</sup>

The Fish and Wildlife Service (FWS) of the Department of the Interior implements the ESA for the majority of flora and fauna.<sup>110</sup> The ESA offers several major procedures for protecting species and habitats: a process for listing species, critical habitat designation, recovery plans, federal interagency cooperation, and habitat conservation planning.<sup>111</sup> Moreover the ESA prohibits federal agency action that will jeopardize species,<sup>112</sup> the taking of listed animal species by any person,<sup>113</sup> and trade in listed species.<sup>114</sup>

Any interested party may petition the FWS to add a species to the list of endangered species, and the FWS may list species on its own initiative. Species designations must be made "solely on the basis of the best scientific and commercial data available."<sup>115</sup> When a species is listed, the FWS must designate critical habitat for that species, "to the maximum extent prudent and determinable," unless it would not benefit the species.<sup>116</sup> Critical habitat consists of specific areas within the geographical range of a species that contain physical or biological features essential to conservation of that species and that require special management.<sup>117</sup> Though critical habitat must be designated on the basis of the "best scientific data available,"<sup>118</sup> economic and

ENVTL L.J. 33 (1994); James Drozdowski, Note, *Saving an Endangered Act: The Case for a Biodiversity Approach to ESA Conservation Efforts*, 45 CASE W. RES. L. REV. 553 (1995).

108. 16 U.S.C. § 1531(b) (1994). Section 1538(c) prohibits violation of CITES.

109. Paflis, *supra* note 107, at 76.

110. U.S. GENERAL ACCOUNTING OFFICE, ENDANGERED SPECIES ACT: TYPES AND NUMBER OF IMPLEMENTING ACTIONS 9, 19 (Resource, Community, and Economic Division Briefing Report No. 92-131, 1992) [hereinafter GAO, IMPLEMENTING ACTIONS]. The National Marine Fisheries Service of the Department of Commerce protects fish and certain marine mammals. Implementation references will be to FWS, which is responsible for the vast majority of species.

111. See generally GAO, IMPLEMENTING ACTIONS, *supra* note 110.

112. 16 U.S.C. § 1536(a)(2) (1994).

113. *Id.* § 1538(a)(1)(B)-(C).

114. *Id.* § 1538(a)(1)(D)-(F), (a)(2)(C)-(D).

115. *Id.* § 1533(b)(1)(A). Factors to be considered in a species determination are "the present or threatened destruction, modification or curtailment of its habitat or range; . . . overutilization; . . . disease or predation; . . . inadequacy of existing regulatory mechanisms; or . . . other natural or manmade factors affecting continued existence." *Id.* § 1533(a)(1). The procedure is set out in § 1533(b). Over 650 endangered and threatened species have been listed; more than 3900 are candidates for the list. Drozdowski, *supra* note 107, at 565.

116. 16 U.S.C. § 1533(a)(3), (b)(2) (1994). Critical habitat must be designated if failure to do so will result in extinction of the species. *Id.* § 1533(b)(2). Designation is not prudent, and therefore not required, if identification of critical habitat would increase the threat from taking or other activity, or if the designation would not be beneficial to the species. 50 C.F.R. § 424.12(a)(1) (1996). For a discussion of the role of habitat protection in conserving endangered and threatened species, see Katherine Simmons Yagerman, *Protecting Critical Habitat Under the Federal Endangered Species Act*, 20 ENVTL. L. 811, 814-27 (1990).

117. 16 U.S.C. § 1532(5)(A)(i) (1994). Land outside these areas can be designated if "essential for the conservation of the species." *Id.* § 1532(5)(a)(ii).

118. *Id.* § 1533(b)(2).

other relevant impacts of designating any particular area as critical habitat may be considered.<sup>119</sup> Relatively little critical habitat has been designated, according to FWS officials, because the designation does not provide much benefit, has low agency priority, suffers from lack of sufficient data, and "may expose species to collection or illegal taking by publicly identifying where they are located."<sup>120</sup> Moreover, critical habitat designations may lead to hostility among local residents, who see the process as "the first step toward the feds condemning the land."<sup>121</sup>

The listing of species and designation of critical habitat trigger several ESA protections.<sup>122</sup> Section 7 restricts federal agencies from authorizing, funding, or carrying out actions that are "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 . . . to be critical."<sup>123</sup> Thus, if public lands contain listed species, the ESA creates a "habitat-based zoning system to protect these species."<sup>124</sup> Further, section 9 prohibits the import, export, possession, sale, transport, or taking of an endangered animal species, by any person, including private parties.<sup>125</sup> Knowing violations are punishable by civil or criminal penalties.<sup>126</sup> In addition, the recovery process requires that FWS develop and implement recovery plans for conservation and survival of endangered and threatened species, unless a plan would not benefit the species. Priority in developing plans goes to the species most likely to benefit.<sup>127</sup> Recovery plans are

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119. *Id.* § 1533(b)(2).

120. GAO, IMPLEMENTING ACTIONS, *supra* note 110, at 28-29.

121. James Salzman, *Evolution and Application of Critical Habitat Under the Endangered Species Act*, 14 HARV. ENVTL. L. REV. 311, 336 (1990) (quoting John Spinks, former Director of the Office of Endangered Species).

122. See Yagerman, *supra* note 116, at 832.

123. 16 U.S.C. § 1536(a)(2) (1994). Exemptions under subsection (h) may be granted by the Endangered Species Committee established under subsection (e). See also subsection (b)(4), which allows takings that comply with a FWS written statement, after a federal agency consultation. The Tellico Dam case involved a § 7 violation, adverse modification of critical habitat of the endangered snail darter. *Tennessee Valley Auth. v. Hill*, 437 U.S. 153 (1978). Critical habitat seems to be significant only within § 7, controlling only federal actions. Salzman, *supra* note 121, at 315. On application of § 7, see Yagerman, *supra* note 116, at 838-45.

124. Robert B. Keiter, *Beyond the Boundary Line: Constructing a Law of Ecosystem Management*, 65 U. COLO. L. REV. 293, 308 (1994). For similar reasoning in the Habitats Directive, see *supra* text accompanying notes 63-64.

125. 16 U.S.C. § 1538(a)(1) (1994). The act applies to endangered species, but regulations extend the prohibitions to threatened species. 50 C.F.R. § 17.31(a) (1996). Salzman, *supra* note 121, at 323, notes that courts seem more likely to find violations under §§ 7 and 9, if government activities are located in critical habitats. See also Yagerman, *supra* note 116, at 845-47.

126. 16 U.S.C. § 1540(a)(1), (b)(1) (1994). State laws that conflict with the ESA's prohibitions on import and export are pre-empted, but state laws regarding the taking of a species may be more restrictive than the ESA or its regulations. *Id.* § 1535(f).

127. *Id.* § 1533(f)(1)(A).



intended to restore species as "viable self-sustaining components of their ecosystems."<sup>128</sup>

Though ESA section 7 requires federal agencies to protect threatened or endangered species, many species protected under the ESA have the majority of their habitat on nonfederal lands.<sup>129</sup> The consultation process (section 7) affects nonfederal landowners if a proposed project requires federal approval (e.g., a permit) or use of federal funds. Consultation with the FWS is then required to ensure that the proposed action will not jeopardize an endangered or threatened species or its habitat.<sup>130</sup> If adverse effects will occur, the landowner (or federal agency) may have to act to minimize or mitigate the impact of the activity on the species or habitat. Consultations have resulted in project modifications (for example, a retail mall planned on habitat of a protected wetland plant) designed to protect species and habitat on nonfederal lands.<sup>131</sup>

Habitat conservation planning is relevant when projects with no federal link may result in a prohibited taking of a species. Section 9 prohibits the "taking" of an endangered animal species, but under section 10 of the ESA, a landowner may receive a permit to take a protected species, if that taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."<sup>132</sup> The incidental taking permit can be granted if the nonfederal landowner develops a habitat conservation plan that specifies (among other things) measures to minimize and mitigate impacts of the project on listed species.<sup>133</sup> By June 1994, 31 habitat conservation plans had been approved for projects including residential and commercial development, timber harvesting, sand and gravel extraction; 132 were being developed or waiting for approval. Some projects involve large areas and numerous nonfederal owners; others are limited to one site or one nonfederal landowner. Most

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128. GAO, IMPLEMENTING ACTIONS, *supra* note 110, at 17. Recovery plans (e.g., for the spotted owl and grizzly bear) should provide linkage corridors to help population intermixing and minimize problems from habitat fragmentation. See Keiter, *supra* note 124, at 308.

129. U.S. GENERAL ACCOUNTING OFFICE, ENDANGERED SPECIES ACT: INFORMATION ON SPECIES PROTECTION ON NONFEDERAL LANDS 1, 4-5 (Resource, Community, and Economic Development Division No. 95-16, 1994) [hereinafter GAO, SPECIES PROTECTION]. Over 90% of the 781 species under FWS protection (as of May 1993) had habitat on nonfederal land. Further, 517 species have over 60% of total habitat on nonfederal land, and about 37% have all their habitat on nonfederal lands. Some land harbors more than one listed species. Private landowners and governmental entities are the most significant owners. Critical habitat may be located on nonfederal lands. Of the 105 species with critical habitat designations, 80 have critical habitat on nonfederal lands; for 43, more than 80% of that habitat is nonfederal. The FWS has occasionally taken legal action to prevent taking of a species on nonfederal land, and actions seeking injunctions to prevent activities threatening species have also been filed. *Id.* at 4-6, 11-14.

130. 16 U.S.C. § 1536(a)(2) (1994), quoted *supra* text accompanying note 123.

131. GAO, SPECIES PROTECTION, *supra* note 129, at 7-9.

132. 16 U.S.C. § 1539(a)(1) (1994).

133. *Id.* § 1539(a)(2). For a description of a plan involving 51 species on 3000 acres, see Lindell R. Marsh, *Conservation Planning Under the Endangered Species Act: A New Paradigm for Conserving Biological Diversity*, 8 TUL. ENVTL. L.J. 97 (1994).



plans require provisions for replacing lost habitat and actions to minimize impacts on specific species.<sup>134</sup>

The protection of habitat on private lands was the focus of a recent US Supreme Court decision, *Babbitt v. Sweet Home Chapter*.<sup>135</sup> As the discussion above indicates, the ESA makes it unlawful for any person to "take" endangered or threatened animal species; the term "take" means "to harass, harm, pursue, . . . wound, . . . kill."<sup>136</sup> In a regulation, the Secretary of the Interior defined "harm" to include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing the essential behavioral patterns, including breeding, feeding, or sheltering."<sup>137</sup> *Sweet Home* originated as a declaratory judgment action against the Secretary of the Interior and the Director of the Fish and Wildlife Service, to challenge the validity, on its face, of this regulation.<sup>138</sup> The plaintiffs (who depended on the forest products industry) alleged that the inclusion of habitat modification and degradation in the definition of "harm" injured them economically, particularly as it applied to the red-cockaded woodpecker and the northern spotted owl. Thus, the Supreme Court had to decide whether the Secretary of the Interior had exceeded his authority under the ESA by defining "harm" to include habitat modification, and whether the plaintiffs had a duty to avoid harm to the birds from habitat alteration on nonfederal lands, unless they obtained an incidental taking permit.<sup>139</sup>

The Supreme Court held that the Secretary's definition of "harm" was based on a "permissible construction of the ESA."<sup>140</sup> The Court noted that the ordinary understanding of the word "harm" supports the Secretary's interpretation, and that the broad purpose of the ESA "supports the Secretary's decision to extend protection against activities that cause the precise harms Congress enacted the statute to avoid."<sup>141</sup> The amendment of the ESA

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134. GAO, SPECIES PROTECTION, *supra* note 129, at 9.

135. *Babbitt v. Sweet Home Chapter*, 115 S. Ct. 2407 (1995).

136. 16 U.S.C. §§ 1532(19), 1538(a)(1)(B) (1994). The taking prohibition in § 9(a)(1) applies to fish or wildlife, not to plant species, which are governed by § 9(a)(2). Among other provisions, that subsection prohibits trespass to damage or destroy endangered plants.

137. 50 C.F.R. § 17.3 (1996). For a detailed discussion of the statute and regulatory provisions at issue, see Steven G. Davison, *Alteration of Wildlife Habitat as a Prohibited Taking Under the Endangered Species Act*, 10 J. LAND USE & ENVT'L. L. 155 (1995).

138. *Sweet Home Chapter v. Babbitt*, 1 F.3d 1 (D.C. Cir. 1993), *rev'd on reh'g*, 17 F.3d 1463 (1994). In its decision on rehearing, the D.C. Circuit used the canon of statutory construction called *noscitur a sociis* (defining a word by the company it keeps) to hold that the Secretary's regulation was invalid. *Sweet Home Chapter v. Babbitt*, 17 F.3d at 1465. The statutory context of the word "harm" (in the definition of "take") included words that "contemplate the perpetrator's direct application of force against the animal taken," and habitat modification does not involve that force. *Id.* This decision conflicted with *Palila v. Hawaii Dept. of Land and Natural Resources*, 852 F.2d 1106 (9th Cir. 1988) (Hawaii's maintenance of sheep that impaired forest habitat of endangered palila bird was a § 9 taking.). For a further discussion of *Palila* and *Sweet Home*, see Davison, *supra* note 137.

139. *Babbitt v. Sweet Home Chapter*, 115 S. Ct. at 2409.

140. *Id.* at 2416. See also *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

141. *Babbitt v. Sweet Home Chapter*, 115 S. Ct. at 2413.

in 1982 to allow permits for incidental takings also "strongly suggests" that Congress intended to prohibit "indirect as well as deliberate takings."<sup>142</sup> The federal government's authority under the ESA to purchase habitat does not prevent the application of the prohibition against "taking" and "harming" species on private land.<sup>143</sup> In addition, legislative history of the ESA supports the Court's conclusion.<sup>144</sup> Thus, in *Sweet Home*, the Court upheld, on its face, the Secretary's definition of "harm" to include "significant habitat modification or degradation that actually kills or injures wildlife."<sup>145</sup> Application of the regulation in specific situations must await case-by-case determination, but the *Sweet Home* decision indicates that certain harmful modifications of animal habitat can be prevented, even on private land.

In light of criticism of the species-by-species approach of the ESA,<sup>146</sup> a relatively recent state development, natural community conservation planning (NCCP), offers promise as a way to preserve biodiversity through an ecosystem approach. California's 1991 Natural Community Conservation Planning Act<sup>147</sup> authorizes the Department of Fish and Game to enter agreements with private citizens to prepare natural community conservation plans, which provide "regional or area-wide protection and perpetuation of natural wildlife diversity, while allowing compatible development and growth."<sup>148</sup> NCCP was first applied in a southern California area of coastal sage scrub habitat, home to the California gnatcatcher, an ESA threatened species. Though the program initially anticipated voluntary participation, unique federal/state regulatory cooperation led to an approach under which NCCP participants are "exempted from otherwise mandatory restrictions of the ESA."<sup>149</sup> A special federal rule made incidental takings of the gnatcatcher exempt from the ESA section 10 permit requirement, if the land-use activity occurred under a plan

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142. *Id.* at 2414.

143. *Id.* at 2415. Authority to purchase habitat is in § 5 of the ESA, 16 U.S.C. § 1534 (1994). The Court noted that this procedure allows the federal government to protect habitat before endangered species are harmed, whereas the prohibition on taking can be enforced only after an animal has been killed or injured. *Babbitt v. Sweet Home Chapter*, 115 S. Ct. at 2415.

144. *Babbitt v. Sweet Home Chapter*, 115 S. Ct. at 2416-18.

145. *Id.* at 2418. The dissenting opinion states: "The Court's holding that the hunting and killing prohibition incidentally preserves habitat on private lands imposes unfairness to the point of financial ruin—not just upon the rich, but upon the simplest farmer who finds his land conscripted to national zoological use." *Id.* at 2421 (Scalia, J., dissenting).

146. See, e.g., Jon Welner, Note, *Natural Communities Conservation Planning: An Ecosystem Approach to Protecting Endangered Species*, 47 STAN. L. REV. 319, 324-36 (1995). On the change to an ecosystem approach by FWS and National Marine Fishery Service, see Patlis, *supra* note 107, at 55-61 (citing Notice of Interagency Cooperative Policy for the Ecosystem Approach to the Endangered Species Act, 59 Fed. Reg. 34273 (1994)).

147. CAL. FISH & GAME CODE §§ 2800-2840 (West Supp. 1994). The goal of NCCP is to plan for habitat protection before ESA listing is necessary. Welner, *supra* note 146, at 338. Efforts to protect wildlife habitat through state law also exist. Jeffrey L. Amestoy & Mark J. Di Stefano, *Wildlife Habitat Protection Through State-Wide Land Use Regulation*, 14 HARV. ENVTL. L. REV. 45 (1990) (focus on Vermont).

148. CAL. FISH & GAME CODE § 2805(a).

149. Welner, *supra* note 146, at 346.

pursuant to the California NCCP.<sup>150</sup> Most of the relevant habitat has been enrolled under the NCCP program, and special Conservation Guidelines provide for both interim protection of coastal sage scrub and final conservation plans. Unlike habitat conservation plans under the ESA, however, plans under NCCP are designed to protect ecosystems, rather than individual species.<sup>151</sup>

### B. Habitat and Species Protection on Federal Land

The federal government owns approximately 650 million acres (about 30%) of the 2.3 billion acres of land in the US.<sup>152</sup> Four federal agencies manage about 95% of this land (at the end of fiscal 1993, 623.1 million acres), most located in 12 western states. The Department of Agriculture's Forest Service manages 191.5 million acres, including 34 million acres of pristine wilderness. Department of the Interior agencies manage other land: the Bureau of Land Management (BLM), 267.6 million acres; the Fish and Wildlife Service (FWS), 87.4 million acres; and the National Park Service (NPS), 76.6 million acres.<sup>153</sup> Of this land, 271.1 million acres (mostly in 12 western states) have legislative or administrative restrictions for conservation purposes. All FWS and NPS lands are restricted; part of Forest Service and BLM lands also have conservation restrictions.<sup>154</sup>

Such extensive federal land ownership offers significant opportunities to manage land to protect species and habitat. But in reality, federal public land has been managed with a so-called "enclave strategy," with tracts of land set aside and managed for specified purposes.<sup>155</sup> Federal land management law relies on "politically-determined boundary lines to define ownership responsibilities,"<sup>156</sup> and management has not traditionally followed ecosystem principles. Adjacent lands (for example, parks, forests, and wilderness areas), even in the same ecosystem, have been managed according to the statutory

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150. Endangered and Threatened Wildlife and Plants; Special Rule Concerning Take of the Threatened Coastal California Gnatcatcher, 58 Fed. Reg. 65088 (1993) (enacted pursuant to 16 U.S.C. § 1533(d) (1994) (protective regulations for threatened species)). For an extensive discussion of the background to the California NCCP, see Welner, *supra* note 146, at 338-46. See also Patlis, *supra* note 107, at 59-61.

151. Welner, *supra* note 146, at 344-47. See also Charles C. Mann & Mark L. Plummer, *California vs. Gnatcatcher*, AUDUBON, Jan.-Feb. 1995, at 40.

152. U.S. GENERAL ACCOUNTING OFFICE, FEDERAL LANDS—INFORMATION ON LAND OWNED AND ON ACREAGE WITH CONSERVATION RESTRICTIONS 1-2 (Resource, Community, and Economic Development Division Testimony No. 95-117, 1995) [hereinafter GAO, FEDERAL LANDS].

153. *Id.* at 1-2. Acreage data was determined at the end of fiscal 1993, and since then, some new land has been acquired. See also Joseph L. Sax, *Nature and Habitat Conservation and Protection in the United States*, 20 ECOLOGY L.Q. 47, 48 (1993). In the West, public land is nearly 50% of the total land base. See Scott W. Hardt, *Federal Land Management in the Twenty-first Century: From Wise Use to Wise Stewardship*, 18 HARV. ENVTL. L. REV. 345, 387 (1994).

154. GAO, FEDERAL LANDS, *supra* note 152, at 3-4.

155. Sax, *supra* note 153, at 49.

156. Keiter, *supra* note 124, at 295; see also Sax, *supra* note 153, at 49.

mandates of the agency controlling the land.<sup>157</sup> Even land subject to conservation restrictions may be used for activities incompatible with real protection of habitat and species. Recently, however, each of the four agencies mentioned above is now "openly touting ecosystem management as the panacea for today's natural resource controversies,"<sup>158</sup> and "federal land management officials are beginning to take initial, cautious steps to design meaningful transboundary management programs that protect shared ecosystems and insure native biological diversity."<sup>159</sup>

Federal environmental laws, which apply to federal agencies, affect land-use decisionmaking or land management in certain circumstances. The National Environmental Policy Act (NEPA)<sup>160</sup> is "a powerful law of environmental process on the public domain."<sup>161</sup> NEPA requires that all federal agencies (including agencies managing federal lands) prepare an environmental impact statement for any action "significantly affecting the quality of the human environment."<sup>162</sup> NEPA and its implementing regulations impose a procedural (rather than a substantive) obligation, but the NEPA procedure forces federal agencies to consider the environmental implications of proposed projects.<sup>163</sup> Similarly, the Endangered Species Act (ESA)<sup>164</sup> imposes affirmative obligations on federal agencies and alters land management priorities when an endangered or threatened species would be imperiled. The designation of federal lands under the Wilderness Act and the Wild and Scenic Rivers Act<sup>165</sup> also refocuses management practices to protect valuable characteristics of the designated areas.<sup>166</sup>

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157. Sax, *supra* note 153, at 49.

158. Keiter, *supra* note 124, at 294. Keiter notes that

ecosystem management views the land and resource base in its entirety, as a holistic or integrated entity. Management focuses on entire ecosystems, not just the individual resources such as timber and forage. Recognizing that natural systems often cross jurisdictional boundaries, ecosystem management emphasizes the need for inter-jurisdictional coordination to ensure ecological integrity and sustainable resource systems.

*Id.* at 295.

159. Robert B. Keiter, *NEPA and the Emerging Concept of Ecosystem Management on the Public Lands*, 25 LAND & WATER L. REV. 43, 44 (1990).

160. National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §§ 4321-4370 (1994).

161. Keiter, *supra* note 159, at 59.

162. 42 U.S.C. § 4332(2)(C) (1994).

163. See generally Keiter, *supra* note 159, at 46-59.

164. 16 U.S.C. §§ 1531-1544 (1994). See *supra* text accompanying notes 112-139. See generally Murray D. Feldman, *National Forest Management Under the Endangered Species Act*, 9 NAT. RESOURCES & ENV'T, Winter 1995, at 32.

165. Wilderness Act, Pub. L. No. 88-577, 78 Stat. 890 (codified as amended at 16 U.S.C. §§ 1131-1136 (1994)); Wild and Scenic Rivers Act, Pub. L. No. 90-542, 82 Stat. 906 (codified as amended at 16 U.S.C. §§ 1271-1287 (1994)). Wilderness areas are normally established by specific statutes; land continues to be managed by the agency with jurisdiction before the area was included in the system. 16 U.S.C. § 1131(b) (1994).

166. A number of other US laws affect management of public lands and the protection of various species of flora and fauna. See, e.g., Migratory Bird Treaty Act, Ch. 128, 40 Stat. 755 (codified as amended at 16 U.S.C. §§ 703-712 (1994)); Wild Bird Conservation Act of 1992,



# 1. Wildlife Refuges and National Parks

The federal lands managed most specifically for species and habitat protection are wildlife refuges. Created incrementally since 1903, primarily on federal land, the National Wildlife Refuge System (NWRS) now consists of almost 91 million acres in nearly 500 refuges, with the majority of the land located in Alaska and the western states. Wildlife refuges are managed by the Fish and Wildlife Service, which sometimes shares authority in a particular refuge with another government agency.<sup>167</sup> Management is focused on the goal of "wildlife and ecological conservation and rehabilitation" through "restoration, preservation, development, and management of wildlife and wildlands habitat."<sup>168</sup>

The early emphasis in establishing refuges was protection of birds and specific species, but the purposes were expanded to include more general protection of habitat for fish and other wildlife resources.<sup>169</sup> Because individual wildlife refuges were created by numerous executive orders and legislative acts, the NWRS is governed by a large number of statutes. The National Wildlife Refuge System Administration Act of 1966,<sup>170</sup> which brought the various wildlife refuges into one "system," was enacted to guide the overall management of the NWRS, but did not alter the fact that various refuges were established with different purposes and priorities. It provides no clear policy guidelines for management of the NWRS or for its future development. Moreover, the Act contained a provision permitting other, compatible land uses in refuge systems. Thus refuges are not designed as "ecologically sustainable entities, even though they provide critical habitats for particular species."<sup>171</sup> They offer wildlife conservation as a dominant use, but may also encompass other, secondary uses.<sup>172</sup> In part because no clear legal standard defines "compatible," recreational activities (including hunting) and eco-

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Pub. L. No. 102-440, 106 Stat. 2224 (codified as amended at 16 U.S.C. §§ 4901-4916 (1994)); Bald Eagle Protection Act, Ch. 395, 54 Stat. 250 (codified as amended at 16 U.S.C. §§ 668-668c (1994)); Marine Mammal Protection Act of 1972, Pub. L. No. 92-522, 86 Stat. 1027 (codified as amended at 16 U.S.C. 1361-1407 (1994)).

167. Richard J. Fink, *The National Wildlife Refuges: Theory, Practice, and Prospect*, 18 HARV. ENVTL. L. REV. 1, 5 n.140 (1994).

168. 50 C.F.R. § 25.11(b) (1991) (cited in Fink, *supra* note 167, at 5-6). Nearly 76 million acres are located in Alaska, and more than 90% of wilderness areas are in Alaska. Fink, *supra* note 167, at 30, 35.

169. The FWS has categorized refuges as Waterfowl Refuges, General Migratory Bird Refuges, Waterfowl Production Areas, Wildlife Ranges, Big Game Ranges, and Coordination Areas. Fink, *supra* note 167, at 22-23.

170. National Wildlife Refuge System Administration Act of 1966, 16 U.S.C. § 668dd (1994). The Refuge Recreation Act of 1962 provided earlier management guidance for refuges, allowing compatible public recreational uses. 16 U.S.C. §§ 460(k)-460(k)(4) (1994).

171. Keiter, *supra* note 124, at 306.

172. Fink, *supra* note 167, at 27. The refuges thus are managed under a dominant use system, which "falls between stricter standards governing national parks and the more permissive standards applicable to multiple-use lands." *Id.*



nomic uses (e.g., grazing, mineral extraction, rights of way) now threaten the wildlife protection function of many refuges.<sup>173</sup>

The National Park Service manages the 76.6 million acres of National Parks for both conservation and public access. Beginning with Yellowstone National Park in 1872, parks have been created by individual acts of Congress.<sup>174</sup> The National Park Service Organic Act indicates that the parks should be managed "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."<sup>175</sup> A management emphasis on visitor access, however, has meant less protection for habitats and species on park land, though Park Service officials are also obligated to preserve park natural resources.<sup>176</sup>

## 2. Forest Service and Bureau of Land Management

The Forest Service and the Bureau of Land Management control the majority of federal land. Many of these lands are managed under the flexible principles of multiple use and sustained yield, mandated for the Forest Service by the Multiple-Use Sustained-Yield Act of 1960,<sup>177</sup> and for the BLM by the Federal Land Policy and Management Act (FLPMA) of 1976.<sup>178</sup> Land management planning (required by NEPA, as well as by FLPMA and the National Forest Management Act) must also focus on environmental values, including species and habitat protection. Further, it would seem that land under Forest Service and BLM jurisdiction could (and, in cases where threatened or endangered species are at issue, must) legally be protected for habitat and species.<sup>179</sup>

The Forest Service mandate under the Multiple-Use Sustained-Yield Act of 1960 states that "the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes,"<sup>180</sup> and that "[t]he Secretary of Agriculture is authorized and directed to develop and administer the renewable surface resources of the

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173. Kimberley J. Priestley, Comment, *The National Wildlife Refuge System: Incompatible Recreational and Economic Uses of Refuge Lands*, 1992 PAC. RIM L. & POL'Y J. 77, 84-85 (1992). Also, in certain refuges, Congress has permitted certain incompatible uses, and in others, FWS interest is limited and other uses are permitted. Fink, *supra* note 167, at 29-30.

174. National Park Service Organic Act, Ch. 408, 39 Stat. 535 (codified as amended at 16 U.S.C. § 1 (1994)).

175. *Id.*

176. Keiter, *supra* note 124, at 305.

177. Multiple-Use Sustained-Yield Act of 1960, Pub. L. No. 86-517, 74 Stat. 215 (codified as amended at 16 U.S.C. §§ 528-531 (1994)).

178. Federal Land Policy and Management Act (FLPMA), Pub. L. No. 94-579, 90 Stat. 2744 (codified as amended at 43 U.S.C. §§ 1701-1784 (1994)).

179. The Multiple-Use Sustained-Yield Act states, "some land will be used for less than all of the resources." 16 U.S.C. § 531(a) (1994). FLPMA allows "the use of some land for less than all of the resources." 43 U.S.C. § 1702(c) (1994). See generally Keiter, *supra* note 124.

180. 16 U.S.C. § 528 (1994). The history of multiple use and sustained yield in Forest Service mandates is described in Hardt, *supra* note 153, at 350-62.

national forests for multiple use and sustained yield of the several products and services obtained therefrom."<sup>181</sup> The National Forest Management Act added "wilderness" to the list of appropriate purposes.<sup>182</sup> That Act also imposes detailed planning obligations; regulations for preparation of forest plans must, in part, specify guidelines to "provide for diversity of plant and animal communities."<sup>183</sup> Forest Service regulations require management of fish and wildlife habitat to maintain "viable populations," identification and protection of critical habitat for threatened and endangered species, and planning for diversity of plant and animal communities and tree species.<sup>184</sup> To ensure diversity, the Forest Service uses indicator species, including the spotted owl, to help ascertain the ecological health of national forests.<sup>185</sup> The Forest Service has significant management discretion under its statutory mandate,<sup>186</sup> and in practice, timber harvest, subject to some ecological restrictions under the Act, has been the dominant use of the national forests.<sup>187</sup>

BLM land tends to have difficult natural conditions, yet often harbors important habitat and species. Under FLPMA (and NEPA), the BLM has a mandate to plan for lands under its jurisdiction, observing the principles of multiple use and sustained yield, with multiple use defined to include "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment."<sup>188</sup> Under FLPMA, the public lands must be managed to "protect the quality of scientific, scenic, historical, ecological, environmental,

181. 16 U.S.C. § 529. Multiple use and sustained yield are defined in § 531.

182. National Forest Management Act of 1976, Pub. L. No. 94-588, 90 Stat. 2949 (codified as amended at 16 U.S.C. § 1604(e)(1) (1994)).

183. *Id.* § 1604(g)(3)(B).

184. 36 C.F.R. §§ 219.19, 219.26 (1996). "Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." *Id.* § 219.19. "Forest planning shall provide for diversity of plant and animal communities and tree species consistent with the overall multiple-use objectives of the planning area." *Id.* § 219.26. Other resources—including grazing and minerals—must also be considered. *Id.* § 219.20, 219.22. "Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plant and animal communities . . ." *Id.* § 219.27(g).

185. Use of indicator species is prescribed in 36 C.F.R. § 219.19(a)(1) (1996). See Keiter, *supra* note 124, at 310; Hardt, *supra* note 153, at 384-85.

186. See, e.g., *Sierra Club v. Marita*, 46 F.3d 606 (7th Cir. 1995) (upholding Forest Service decision not to implement conservation biology principles).

187. See Hardt, *supra* note 153, at 355-56. For a description of Forest Service and National Park Service efforts toward ecosystem management in the greater Yellowstone ecosystem, see John Mumma & Paul Grigsby, *A Vision for Yellowstone's Forests*, 15 PUB. LAND L. REV. 11 (1994). State Forest Practice Acts offer protection for biodiversity in forest areas on state and private lands. See Minnesota Audubon Council, *Forest Practice Legislation in the United States*, 13 HAMLINE J. PUB. L. & POL'Y 73, 74 (1992). For extensive information about state forestry law, with summaries of numerous state laws, see PAUL V. ELLEFSON ET AL., REGULATION OF PRIVATE FORESTRY PRACTICES BY STATE GOVERNMENTS (Minn. AES Bulletin 605-1995, 1995).

188. 43 U.S.C. §§ 1712(c)(1), 1702(c), (h) (1994).

air and atmospheric, water resource, and archeological values; . . . preserve and protect certain public lands in their natural condition; . . . [and] provide food and habitat for fish and wildlife and domestic animals."<sup>189</sup> Concomitantly, management must also recognize the need for "domestic sources of minerals, food, timber, and fiber from the public lands."<sup>190</sup>

In practice, a significant conflict between environmental and extractive interests is evident on many BLM lands. Grazing is an example. In the arid far west, 177 million acres are under BLM management and harbor over 3000 animal species, many threatened or endangered, as well as important scenic areas. Grazing is permitted on nearly all land (167 million acres) that can support livestock.<sup>191</sup> BLM policy has made it difficult to reduce existing numbers of livestock, despite the damage to flora and fauna, riparian areas, and other alternate uses.<sup>192</sup>

### 3. Wetlands

The environmental value of wetlands has been recognized in the US only in the last several decades.<sup>193</sup> Indeed, agricultural and other development has resulted in loss of more than 50% of the original wetlands in the US; direct and indirect government subsidies often led to destruction of wetlands.<sup>194</sup> Yet wetland ecosystems are crucial habitat for almost 35% of all rare, threatened, and endangered species of animals; they provide habitat for important migratory birds and for plants as well.<sup>195</sup> Many of the remaining wetlands are in private ownership, often on agricultural land. Federal policy in recent years has been directed toward a goal of "no net loss" of wetlands,

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189. 43 U.S.C. § 1701(a)(8) (1994).

190. *Id.* § 1701(a)(12).

191. The Taylor Grazing Act of 1934, Pub. L. No. 104-207, 110 Stat. 3008 (codified as amended at 43 U.S.C. §§ 315-315r (1994)) (governing grazing permits). The Public Rangelands Improvement Act of 1978, 43 U.S.C. §§ 1901-1908 (1994), applies to ranges managed by BLM and Forest Service and focuses on improvement of range conditions to be "as productive as feasible." *Id.* § 1903(b).

192. Joseph M. Feller, *What Is Wrong with the BLM's Management of Livestock Grazing on the Public Lands?*, 30 IDAHO L. REV. 555, 579 (1993-94). The Forest Service also manages grazing lands.

193. Though the Rivers and Harbors Act of 1899, 33 U.S.C. § 403, regulated some activities in navigable wetlands, the Water Bank Act of 1970, 16 U.S.C. §§ 1301-11, was the first federal law that protected wetlands specifically, by authorizing lease of ten-year protective wetland easements. See Kevin Coyle, Note, *The Wetlands Reform Act of 1993—Does It Hold Water?*, 3 DICK. J. ENVTL. L. & POL'Y 19, 22 (1994). Earlier, however, national wildlife refuges offered protection to wetlands. Curtis C. Bohlen, *Wetlands Politics from a Landscape Perspective*, 4 MD. J. CONTEMP. LEGAL ISSUES 1, 3 (1992-93).

194. Bohlen, *supra* note 193, at 1.

195. See 16 U.S.C. § 4401(a) (findings in North American Wetlands Conservation Act). Another estimate is that, among endangered and threatened species and migratory birds, one-third of plants and two-thirds of animals find critical habitat in wetlands. *SWCS Adopts Wetland Policy Statement*, 47 J. SOIL & WATER CONSERVATION 439, 439 (1992).

but laws focus primarily on preventing destruction of remaining wetlands, rather than creation of government-owned wetland reserves.<sup>196</sup>

At least twenty-five federal statutes regulate issues connected with wetlands and involve six federal agencies. These laws authorize acquisition of wetlands or easements on wetlands,<sup>197</sup> restoration of damaged wetlands, creation of new wetlands, regulation of activities, and restrictions to avoid wetland loss.<sup>198</sup> Many states, too, impose additional regulations on use of wetlands. The scope and administration of these programs vary by state.<sup>199</sup>

The most important federal regulatory program protecting wetlands is section 404 of the Clean Water Act.<sup>200</sup> Section 404 requires a permit for the discharge of dredged or fill material into the navigable waters of the US.<sup>201</sup> The Army Corps of Engineers has authority to grant or deny permits under section 404, and the Environmental Protection Agency (EPA) provides environmental guidelines for Corps decisionmaking.<sup>202</sup> The EPA also has authority to veto permits granted by the Corps, if the discharge of materials will have an "unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreation areas."<sup>203</sup>

Though the plain language of section 404 refers to "navigable waters" (defined as "the waters of the United States"),<sup>204</sup> the jurisdiction of the Corps has been interpreted expansively to include wetlands. Corps jurisdiction extends to interstate waters and wetlands, and also to intrastate waters and wetlands that could affect interstate or foreign commerce.<sup>205</sup> Wetlands adjacent to waters over which the Corps has jurisdiction are also included,<sup>206</sup> as are artificial wetlands and isolated wetlands that "may provide habitat to migratory

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196. See *SWCS Adopts Wetland Policy Statement*, *supra* note 195, at 439-40.

197. A federal program to acquire wetlands is the Emergency Wetlands Resources Act, designed to protect wildlife habitat, fishing, recreation, and water quality through federal purchase of the most critical wetlands. Emergency Wetlands Resource Act of 1986, 16 U.S.C. §§ 3901-3932 (1994).

198. U.S. GENERAL ACCOUNTING OFFICE, *WETLANDS OVERVIEW—FEDERAL AND STATE POLICIES, LEGISLATION, AND PROGRAMS* 19-31 (Resource, Community, and Economic Development Fact Sheet No. 92-79, 1991) [hereinafter GAO, *WETLANDS OVERVIEW*]. The discussion of wetland regulation is adapted, in part, from Margaret Rosso Grossman, *Agriculture and the Environment in the United States*, 42 AM. J. COMP. L. 291, 325-29 (Supp. 1994).

199. See Richard H. McNeer, *Nontidal Wetlands Protection in Maryland and Virginia*, 51 MD. L. REV. 105, 117-18 (1992).

200. 33 U.S.C. § 1344 (1994).

201. Landowners who deposit dredged or fill materials contrary to § 404 may be subject to costly corrective action or civil or criminal penalties. *Id.* § 1319.

202. 33 U.S.C. § 1344(b) (1994).

203. *Id.* § 1344(a)-(c). This veto power has rarely been used.

204. *Id.* § 1362(7).

205. 33 C.F.R. § 328.3(a) (1996); 40 C.F.R. § 230.3(s) (1996). See also Larry R. Bianucci & Rew R. Goodenow, *The Impact of Section 404 of the Clean Water Act on Agricultural Land Use*, 10 J. ENVTL. L. 41, 43-44 (1991).

206. See *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 129-31 (1985).

birds and endangered species."<sup>207</sup> These "jurisdictional wetlands" are identified by a consideration of wetlands characteristics, the effect on interstate commerce (rarely difficult to establish), and the nature of the activity to be carried out.<sup>208</sup> Normally wetlands vegetation, hydric soils, and wetland hydrology are required for section 404 regulation.<sup>209</sup>

If the Corps issues a permit, it may condition the permit on the applicant's action to mitigate unavoidable adverse impacts on wetlands through creation of new wetlands or restoration of existing wetlands.<sup>210</sup> But the section 404 permit requirement does not guarantee protection of wetlands, because some significant activities that damage wetlands are not restricted. Unregulated activities include drainage, dredging and excavation,<sup>211</sup> lowering of ground water levels, wetlands flooding, deposit of material other than dredged or fill material,<sup>212</sup> removal of vegetation,<sup>213</sup> and activities on non-wetland areas.<sup>214</sup> Moreover, certain activities are explicitly excluded from the permit requirement. For example, the discharge of dredged or fill material from normal farming operations (activities like plowing, seeding, cultivation, harvesting, and minor drainage) is excluded from regulation, but only if the activities are part of an established and ongoing operation.<sup>215</sup> Exemptions are limited: they do not apply if they bring a wetland area into new use and impair the flow or reduce the reach of navigable waters.<sup>216</sup>

Protection of wetlands for wildlife habitat and other purposes has been made part of US agricultural policy. Under the "swampbuster" provisions enacted in 1985 and amended in 1990 and 1996,<sup>217</sup> farmers who produce an agricultural commodity on wetlands cannot receive specified USDA loans and payments, including certain conservation payments, for that year. Farmers who convert wetlands for agricultural production are ineligible for those

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207. *Leslie Salt Co. v. United States*, 896 F.2d 354, 360 (9th Cir. 1990).

208. *Bianucci & Goodenow*, *supra* note 205, at 46.

209. Corps and EPA regulations indicated that wetlands include "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." 33 C.F.R. § 328.3(b) (1996); 40 C.F.R. § 230.3(t) (1996). The identification of wetlands has resulted in significant controversy, particularly over a cooperative interagency manual intended to guide in wetland identification.

210. 40 C.F.R. § 1508.20(e) (1996).

211. 33 U.S.C. § 1344(f)(1)(a) (1994).

212. *Id.* § 1344(f)(1)(D).

213. *Id.* § 1344(f)(1)(A).

214. Judicial expansion of regulated activities has occurred. See, e.g., *Avoyelles Sportsmen's League, Inc. v. Marsh*, 715 F.2d 897 (5th Cir. 1983).

215. 33 U.S.C. § 1344(f)(1)(A) (1994).

216. *Id.* § 1344(f)(2).

217. 16 U.S.C. §§ 3821-3824 (1994). The 1996 amendments were enacted in the Federal Agriculture Improvement & Reform Act, Pub. L. No. 104-127, §§ 321-326, 1996 U.S.C.A.N. (110 Stat.) 888, 986.



payments for the current and all subsequent crop years.<sup>218</sup> Some exemptions, including a "minimal effects" exemption, apply.

Farmer compliance with swampbuster provisions, however, does not satisfy section 404 permit requirements. In *United States v. Brace*,<sup>219</sup> for example, the Third Circuit held that a Pennsylvania farmer's activities on a thirty-acre wetland site were not exempt from the section 404 permit requirements as normal farming activities.<sup>220</sup> Brace commenced his work before December 1985, and thus qualified for an exemption from the swampbuster provisions that would otherwise have precluded farm program benefits.<sup>221</sup> Without applying for a section 404 permit, however, Brace installed four miles of drainage tile, and he "cleared, mulched, churned, levelled, and drained" the wooded, vegetated site.<sup>222</sup> His activities, designed to convert a wetland site not suitable for farming and bring it into farming use, did not fall within the statutory and regulatory parameters of normal farming activities.<sup>223</sup> Thus his activities, carried out without a permit, violated section 404.<sup>224</sup>

Also in connection with farm policy, a voluntary Wetlands Reserve Program,<sup>225</sup> covering a maximum of 475,000 acres, authorizes federal government purchase of permanent or thirty-year easements on eligible wetlands and federal restoration cost-share agreements.<sup>226</sup> Land enrolled in the Wetlands Reserve must maximize "wildlife benefits and wetland values and functions."<sup>227</sup> Though the landowner continues to control access to the property, conservation plans will limit alteration of wildlife habitat, most chemical application and mowing, crop production, and other incompatible activities.

#### IV. CONCLUSION

Both the EC and the US include land and water areas that provide important habitat and harbor vulnerable plant and animal species. Recognizing that "[h]abitat destruction constitutes the most serious threat to flora and

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218. Wetlands are defined as land with hydric soils, wetland hydrology, and hydrophytic vegetation, to be identified on delineation maps. 16 U.S.C. §§ 3801(a)(16), 3822(a)(1) (1994); 7 C.F.R. § 12.31 (1996). Exemptions from loss of benefits apply to conversions before December 23, 1985, conversions with minimal effects on wetland values, and conversions mitigated by restoration of previously converted wetlands.

219. *United States v. Brace*, 41 F.3d 117 (3d Cir. 1994), *cert. denied*, 115 S. Ct. 2610 (1995).

220. *Id.* at 125.

221. *Id.* at 121.

222. *Id.*

223. *Id.* at 126.

224. *Id.* at 128.

225. 16 U.S.C.S. §§ 3837-3837f (Supp. 1996), as amended by Federal Agriculture Improvement & Reform Act of 1996, Pub. L. No. 104-127, §§ 321-326, 1996 U.S.C.C.A.N. (110 Stat.) 888, 995.

226. *Id.* § 3837a, as amended.

227. Federal Agriculture Improvement & Reform Act of 1996, Pub. L. No. 104-127, § 333(b)(3), 1996 U.S.C.C.A.N. (110 Stat.) 888, 995 (to be codified at 16 U.S.C. § 3837(c)(1)).

fauna in Western Europe"<sup>228</sup> and the United States, both the EC and the US have enacted laws designed to protect habitat from further degradation and species from extinction. The Habitats and Wild Birds Directives authorize creation of an extensive system of habitats, *Natura 2000*, to protect important species. In the US, the Endangered Species Act protects endangered or threatened species and their critical habitats, while numerous other laws are directed at protecting (or at least managing) geographic enclaves, wetland habitats, and some specific species. And in both the EC and the US, significant nature protection activities also exist at other governmental levels.

In Europe and the US, differing land ownership patterns affect the protection of habitats and species. In the EC, where land is owned by Member States and various private parties (but not the Community) and where Member States govern issues of private property ownership, EC efforts may be hindered by actions of Member States or private property owners.<sup>229</sup> In the US, even with extensive federal land ownership, competing interests on that federal land often interfere with conservation efforts. Many groups have "rights" on public lands. Visitors and hunters are accommodated on lands managed by the National Park Service and the FWS. Miners and cattle farmers have statutory rights on federal lands, and resource production remains an important focus.<sup>230</sup> Much important habitat also exists on land in private and state ownership.

Important differences in implementation occur, even when effective programs for protection of habitat and species have been enacted. In the US, cooperation between levels of government is important; in the EC, that cooperation is crucial. In the US, federal land management agencies bear responsibility for federal lands, as well as for enforcement of generally applicable laws (e.g., the ESA) on federal, state, and private lands. In contrast, the EC does not normally implement its own environmental measures, but relies on Member States to implement and enforce the legislation.<sup>231</sup> Because resources and administrative capabilities of the Member States differ, implementation can be rather inconsistent, especially because the EC does not normally withhold funds to induce Member State implementation.<sup>232</sup>

Under many US federal programs, a kind of "enclave strategy" seems to predominate, with land identified and managed for a particular purpose.<sup>233</sup> The Habitats Directive, too, focuses on identification and management of special areas of conservation and requires measures to avoid destruction of habitat and disturbance of species. Absent efforts at species and habitat conservation that go beyond these enclaves, however, long-term protection may not be entirely successful. Recent research suggests that even the largest nature reserves (national parks, wilderness areas, wild and scenic rivers) in the

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228. Krämer, *supra* note 7, at 45.

229. *Id.* at 25.

230. See Keiter, *supra* note 124, at 318.

231. Krämer, *supra* note 7, at 27.

232. *Id.* at 43-44.

233. On the enclave idea, see Sax, *supra* note 153, at 49-51. The ESA attempts to manage resources instead of enclaves. *Id.* at 52.

US are too fragmented to preserve large numbers of species and too small to support viable populations of large vertebrates.<sup>234</sup> Federal agencies in the US are beginning to move beyond attitudes of "bureaucratic territorialism"<sup>235</sup> and to work together across enclaves, to protect ecosystems and biodiversity. As agencies begin to incorporate more ecosystem management, they may take a harder look at land uses that are incompatible with conservation, at least on some land areas. Clear congressional support for ecosystem management on public lands, selectively or for specific sites, could help to eliminate conflicts between ecosystem (including habitat and species) protection and competing, often-destructive land uses.<sup>236</sup> But recent emphasis on private property rights and the "wise use" of natural resources (an anti-environmental stance) may deter Congress from enacting effective new environmental laws.<sup>237</sup>

The future of habitat and species conservation in the EC depends in large part on the political will of Member States to implement the Habitats Directive by designating and protecting special areas of conservation, and to use national law to protect other vulnerable habitats that have not been designated under the Directive. In the US, federal agencies have an important role to play in managing vast areas of federal land and also in enforcing federal environmental laws. But states also play important roles in protecting valuable nonfederal lands within their borders. In any event, it would seem that "boundary lines are ecological impediments,"<sup>238</sup> and that species and habitat protection will require cooperation of all levels of government, nationally and internationally.

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234. Jon D. Holst, *The Unforeseeability Factor: Federal Lands, Managing for Uncertainty, and the Preservation of Biological Diversity*, 13 PUB. LAND L. REV. 113, 129-30 (1992); see also *Sierra Club v. Marita*, 46 F.3d 606, 617-18 (7th Cir. 1995) (mentioning that size of habitat is crucial for survival).

235. Sax, *supra* note 153, at 50.

236. See Keiter, *supra* note 124, at 325-32.

237. *Id.* at 319-23.

238. Sax, *supra* note 153, at 55.

