

# William & Mary Environmental Law and Policy Review

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Volume 14 (1989-1990)  
Issue 1 *Environmental Practice News*

Article 2

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October 1989

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## **The Endangered Species Act and Birds of Old-Growth Forest**

By Sean Skaggs

The Red-cockaded Woodpecker and the Spotted Owl are two bird species whose existence is closely tied to habitat known as old-growth forest. Current levels of destruction of old-growth forest suggest that both species will be in danger of extinction in the near future. Both species have figured prominently in recent challenges of U.S. Forest Service management practices in national forests. Practices which cause the destruction of old-growth forest have been challenged in Washington, on behalf of the Spotted Owl, and in Texas, on behalf of the Red-cockaded Woodpecker. Both challenges have relied, in part, on the Endangered Species Act of 1973.<sup>1</sup>

This article will examine the courts' interpretation of the Endangered Species Act and the impact of their decisions on the continued survival of the Red-cockaded Woodpecker and the Spotted Owl.

### **I. The Endangered Species Act of 1973**

#### **A. Purposes**

The stated purposes of the Endangered Species Act (ESA or the Act) are, "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved,"

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1. 16 U.S.C.A. §§ 1531-1543 (Environmental Law Statutes West 1989).

and, " to provide a program for the conservation of such endangered species and threatened species..."<sup>2</sup>

#### B. Listing Requirements

The Endangered Species Act of 1973 affords protection to plant and animal species threatened or endangered by extinction.<sup>3</sup> The ESA requires that species afforded protection under the Act first be officially listed as threatened or endangered.<sup>4</sup> Section 4 of the ESA provides that a species should be designated as threatened or endangered if the Secretary of Interior (Secretary), on the basis of the best scientific and commercial data, determines that a species is in danger of extinction, or is likely to become so within the foreseeable future.<sup>5</sup> Section 4 also requires that the Secretary designate any critical habitat of the species at the time the species is listed.<sup>6</sup> Critical habitat is defined as specific areas within the geographical range of the species which are

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2. ESA § 2(b), 16 U.S.C.A. § 1531(b).

3. Endangered species is defined as "any species which is in danger of extinction throughout all or a significant portion of its range" ESA § 3(6), 16 U.S.C.A. § 1532(6). Threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Id. § 3(20), 16 U.S.C.A. § 1532(20).

4. Id. § 4, 16 U.S.C.A. § 1533.

5. Id. § 4(a)(1), (b)(1)(A), 16 U.S.C.A. § 1533(a)(1), (b)(1)(A).

6. Id. § 4(a)(3)(A), 16 U.S.C.A. § 1533(a)(3)(A). The ESA allows up to two years for designation of critical habitat once a species is listed. Id. § 4(b)(6)(A)(ii), (6)(B)(ii), 16 U.S.C.A. § 1533(b)(6)(A)(ii), (6)(B)(ii).

essential to the conservation of the species.<sup>7</sup> Specific areas outside the current geographical range of the species can also be classified as critical habitat if the areas are essential to the conservation of the species.<sup>8</sup> Section 4 requires the use of the best scientific and commercial data available and a consideration of the economic impact of designating an area as critical habitat.<sup>9</sup> By requiring a consideration of economic impact, section 4 allows the Secretary to consider competing interests and decide against designation of critical habitat if the benefits of designation are outweighed by the benefits of exclusion. If failure to designate critical habitat would result in the extinction of the species, however, the area must be designated critical habitat.<sup>10</sup> This is one of only two provisions of the ESA that permit an explicit balancing of competing interests.<sup>11</sup>

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7. Id. § 3(5)(A)(i), 16 U.S.C.A. § 1532(5)(A)(i).

8. Id. § 3(5)(A)(ii), 16 U.S.C.A. § 1532(5)(A)(ii).

9. Id. § 4(b)(2), 16 U.S.C.A. § 1533(b)(2).

10. Id.

11. The 1978 amendments to the ESA created an exemption to the obligations imposed on federal agencies by section 7(a)(2). All petitions for exemption must be reviewed by a cabinet level Endangered Species Committee. Exemptions will be granted if the committee finds: 1) There are no reasonable alternatives; 2) The benefits of such action outweigh the benefits of alternatives which conserve the species and such action is in the public interest; 3) The action has regional or national significance, and 4) That an irretrievable commitment of resources has not already been made. Mitigation measures must be enacted if an exemption is granted. Id. § 7(h), 16 U.S.C. § 1536(h). The exemption process allows for consideration of the public interest in a federal action, and for a balancing of this interest with the value of species conservation: something which was not permitted under section 7 before 1978. For a discussion of the exemption process, see

### C. Affirmative Obligations

Section 7 of the ESA makes conservation of endangered species a mandate of every federal agency. Section 7(a)(1) directs federal agencies to use their authority to further the purposes of the ESA.<sup>12</sup> Section 7(a)(1) thus requires federal agencies to use their authority to conserve ecosystems which contain endangered species and to provide a program for the conservation of endangered and threatened species.<sup>13</sup> Section 7(a)(2) protects endangered and threatened species from harm caused by federal activities by requiring each agency to insure that agency action "is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction of critical habitat."<sup>14</sup>

### D. Prohibited Acts

Section 9 of the ESA makes it unlawful for any person to "take" endangered species.<sup>15</sup> The ESA definition of "take" includes: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or

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Rosenberg, Federal Protection of Unique Environmental Interests: Endangered and Threatened Species, 58 N.C.L. Rev. 491, 516-523 (1980).

<sup>12</sup>ESA § 7(a)(1), 16 U.S.C.A. § 1536(a)(1).

<sup>13</sup>Id. § 2(b), 16 U.S.C.A. § 1531(b).

<sup>14</sup>Id. § 7(a)(2), 16 U.S.C.A. § 1536(a)(2).

<sup>15</sup>Id. § 9(a)(1)(B), 16 U.S.C.A. § 1538(a)(1)(B).

collect, or to attempt to engage in any such conduct."<sup>16</sup> The definition of "harm" has been the focus of the section 9 prohibition on takings. The definition of harm includes, "any act causing significant habitat modification or degradation having the effect of injuring, killing, or significantly altering essential behavioral patterns, including breeding, feeding or sheltering."<sup>17</sup> Section 9 protects endangered species from harm and in doing so, appears to make destruction of habitat a violation of ESA even if there has been no designation of critical habitat. If destruction of the habitat can be shown to alter a species' essential behavioral patterns, then destruction of that habitat is a taking under section 9.

## II. Judicial Interpretation of the ESA

In *Tennessee Valley Authority v. Hill*,<sup>18</sup> the U.S. Supreme Court provided a broad reading to the Endangered Species Act. The Court held that the Tellico Dam project, which was near completion, could not go forward because the existence of an endangered species, the Snail Darter, would be jeopardized.<sup>19</sup> The Supreme Court found that section 7 of the Act requires "agencies to afford first priority

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<sup>16</sup>Id. § 3(19), 16 U.S.C.A. § 1532(19).

<sup>17</sup>50 C.F.R. § 17.3 (1982).

<sup>18</sup>437 U.S. 153 (1978).

<sup>19</sup>Id. at 174.

to the declared national policy of saving endangered species".<sup>20</sup> The Court further stated that the language of the Act in general reveals that "a plain intent of Congress in enacting the statute was to halt and reverse the trend toward species extinction, whatever the cost."<sup>21</sup> The Supreme Court thus rejected the notion that there should be a balancing between the survival of an endangered species and the importance of economic or public interests. Congress amended the ESA in 1978<sup>22</sup> to provide for the balancing of public interests through the provision of an exemption process.<sup>23</sup>

The 1978 and subsequent amendments to the ESA have not restricted the Supreme Court's interpretation of the ESA and courts have relied on the Supreme Court's strict interpretation of section 7. In *Roosevelt Campobello Intern. Park v. U.S.E.P.A.*,<sup>24</sup> the court determined that the legislative intent was to provide extensive protection to endangered species and relied on the Supreme Court's holding in *TVA v. Hill* that agencies are under a mandate to use "all methods and procedures which are necessary to prevent the loss of any endangered species."<sup>25</sup> Despite the holding in *Roosevelt*,

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<sup>20</sup>Id. at 185.

<sup>21</sup>Id. at 184.

<sup>22</sup>Pub. L. No. 95-632, 92 Stat. 3751 (1978).

<sup>23</sup>See supra note 11.

<sup>24</sup>684 F.2d 1041 (1st Cir. 1982).

<sup>25</sup>Id. at 1049.

challenges seeking to enjoin federal actions based on section 7 have generally not been successful.<sup>26</sup> The section 9 prohibition against takings, on the other hand, has provided some measure of success.

The interpretation of section 9 by the court in *Palila v. Hawaii Dept. of Land and Natural Resources*<sup>27</sup> demonstrates the potential effectiveness of a challenge brought under the neglected takings prohibition of section 9. In *Palila*, the court found that state action which caused the destruction of critical habitat of the *Palila*<sup>28</sup> amounted to a taking under section 9.<sup>29</sup> The Ninth Circuit upheld the district court, noting that Congress had been informed that habitat destruction was the greatest threat to species survival.<sup>30</sup>

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<sup>26</sup>See Erdheim *The Wake of the Snail Darter: Insuring the Effectiveness of the Endangered Species Act*, 9 *Ecology Law Quarterly* 629, 643 n. 121 (1981). These challenges focused primarily on § 7(a)(2) and the duty of agencies to insure that agency action is not likely to jeopardize a threatened or endangered species. As will be discussed in the text accompanying note 32 *infra*, § 7(a)(1) may provide a stronger basis for challenging federal actions.

<sup>27</sup>471 F. Supp. 985 (D. Hawaii 1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981).

<sup>28</sup>The *Palila* (*Psittirostra bailleui*) is a bird species endemic to the islands of Hawaii. *Palila v. Hawaii Department of Land and Natural Resources* *Id.* at 988 (1979).

<sup>29</sup>*Id.* at 995.

<sup>30</sup>639 F.2d at 498.

Other provisions of the ESA have recently been interpreted broadly. In *Organized Fishermen of Florida v. Andrus*,<sup>31</sup> the court noted that the ESA imposes an affirmative duty not only to protect, but also to increase the population of endangered species.<sup>32</sup> The court pointed to the definition of "conserve" as established by section 3(3) of the ESA which includes, "the use of all methods and procedures which are necessary to bring any endangered species to the point at which the measures provided pursuant to this chapter are no longer necessary."<sup>33</sup> The court's emphasis on the definition of conserve has the potential to make section 7(a)(1), which had previously been ignored, the provision with the greatest potential for ensuring the conservation of threatened and endangered species.

### III. The Red Cockaded Woodpecker

The Red-cockaded Woodpecker (*Picoides borealis*) has been on the endangered species list for nineteen years and was one of the first species listed as an endangered species.<sup>34</sup> The Red-cockaded Woodpecker occurs in old-growth pine forests in the Southcentral

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<sup>31</sup>488 F. Supp. 1351 (S.D. Fla. 1980).

<sup>32</sup>*Id.* at 1356 n.10 (emphasis added).

<sup>33</sup>*Id.*

<sup>34</sup>The Red-cockaded Woodpecker was listed in 1970, 35 Fed .Reg. 16,047 (1970). The species was listed under the provisions of the Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, 83 Stat. 275 (1969) (repealed 1973).

and Southeastern United States.<sup>35</sup> This bird relies on habitat containing mature open pine forest, but the Forest Service's clear cutting of forests for even-aged management of timber has greatly reduced this habitat type.<sup>36</sup> Only 2.5% of existing southern pine forest is estimated to be suitable habitat for Red-cockaded.<sup>37</sup> While under the protection of the ESA, Red-cockaded populations have declined and there have been a number of local extinctions;<sup>38</sup> current estimates of total numbers of Red-cockaded Woodpeckers range between 4,800-10,000.<sup>39</sup>

Sierra Club v. Lyng<sup>40</sup> is the most significant challenge brought on behalf of the Red-cockaded Woodpecker to date. In Sierra Club, the U.S. District Court ordered a permanent injunction requiring

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<sup>35</sup>Ligon, Stacey, Conner, Bock & Adkisson, Report of the American Ornithologist's Union Committee for the Conservation of the Red-cockaded Woodpecker, 108 *Auk* 848 (1986) [hereinafter Ligon].

<sup>36</sup>*Id.*

<sup>37</sup>*Id.* at 849. The Red-cockaded is a cavity nesting bird and almost all of the roosting and nesting cavities are excavated in old pines (80-120 years) which have had the wood softened by a wood rotting fungus (*Phellinus pini*). The cavities still require a long period to construct and are often used by a number of generations of birds. *Id.* The nesting activities of the Red-cockaded are thus closely intertwined with the existence of mature pines.

<sup>38</sup>*Id.* at 848.

<sup>39</sup>*Id.* at 849. The populations in some states are very small. The population estimate in the State of Virginia in 1986 was 25 individuals. Virginia's Birdlife, 3 *Virginia Avifauna* 70 (1987). In 1989, the population estimate in Virginia is 14 individuals. Red-cockaded Woodpecker, in Virginia Non Game and Endangered Wildlife Investigations Annual Report, July 1, 1988-June 30, 1989. Virginia Department of Game and Inland Fisheries.

<sup>40</sup>694 F. Supp. 1260 (E.D. Tex. 1988).

substantial changes in Forest Service practices in areas inhabited by the Red-cockaded Woodpecker.<sup>41</sup> The court ordered the injunction because the forest management practices of the Forest Service violated section 7 and section 9 of the Endangered Species Act.<sup>42</sup>

The Sierra Club court relied on both section 7(a)(1) and section 7(a)(2) in finding that the Forest Service had not fulfilled its obligations under section 7. The court stated that federal agencies not only must insure that agency action is not likely to jeopardize an endangered species, but they must also carry out programs to conserve endangered species.<sup>43</sup>

The court found that the applicable standard of review was whether the agency's actions were arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.<sup>44</sup> The court relied on *National Wildlife Federation v. Coleman*<sup>45</sup> in placing the burden on the agency to "determine whether it has taken all necessary action to insure that its actions will not jeopardize the continued existence of an endangered species or modify habitat critical to the existence of the species."<sup>46</sup> The court concluded

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<sup>41</sup>Id. at 1278.

<sup>42</sup>Id. at 1269.

<sup>43</sup>Id.

<sup>44</sup>Id. at 1272.

<sup>45</sup>529 F.2d 359 (5th Cir. 1976).

<sup>46</sup>Lyng, 694 F. Supp. at 1272.

that the question for judicial review was "whether the decision was based upon an assessment of the relevant factors and whether there has been an error of judgment."<sup>47</sup> The answer, according to the court, was that the Forest Service failed to take the necessary steps to insure that the current management practices would not jeopardize the woodpeckers.<sup>48</sup> The court noted that an agency has the duty to re-initiate consultation with the Secretary when it becomes apparent that new information may impact a species.<sup>49</sup> The court stated that information about population declines of the woodpecker was new information which required the Forest Service to re-initiate consultation with the Secretary. The court found the information on population declines relevant because the information "pointed out deficiencies in forest management practices as it impacted on the future survival of the endangered woodpeckers."<sup>50</sup> The court noted that the case boiled down to the fact that the forest service was not implementing practices identified by its own experts as critical to the survival of the

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<sup>47</sup>Id. at 1273.

<sup>48</sup>Id. at 1273. The court cites *NWF v. Coleman* and uses the language "do not jeopardize" that was in section 7 at the time of *Coleman*, but was amended in 1978 to read "is not likely to jeopardize." The standards set by the amended version of section 7 are still strict enough that the court could have reached the same result. This is especially the case here, since the court found that the Forest Service was ignoring its experts and was failing to implement practices identified as necessary to the survival of the Red-cockaded. For a discussion of the 1978 amendments to the ESA, see *Erdheim*, supra note 26, at 636.

<sup>49</sup>*Lyng*, 694 F. Supp. at 1273 (citing 50 C.F.R. 402.16 (1987)).

<sup>50</sup>Id.

species.<sup>51</sup> Thus the court, although applying a scrutinizing standard of review,<sup>52</sup> did not have to determine whether Forest Service strategies for conserving an endangered species were adequate or biologically sound.

The primary issue in Sierra Club was the taking claim. Sierra Club argued that the Forest Service's methods of managing the national forests of Texas resulted in a taking of the Red-cockaded Woodpecker as set out in section 9.<sup>53</sup> The Court agreed, stating, "it is uncontested that a severe decline in the population of woodpeckers has occurred in the past ten years,"<sup>54</sup> and that Forest Service practices were largely responsible for the rapid population decline.<sup>55</sup> The court cited *Palila v. Hawaii Dept. of Land and Natural Resources*,<sup>56</sup> stating that "harm" as defined by Forest Service regulations, did not require the proof of the death of specific or individual members of the species.<sup>57</sup> A showing that

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<sup>51</sup>Id.

<sup>52</sup>For a discussion of judicial review, see Harrison, Hammond v. North Slope Borough: The Endangered Species Issue-An Exercise in Judicial Lethargy, 1 *Alaska L. Rev.* 129, 130 (1984).

<sup>53</sup>Lyng, 694 F. Supp. at 1269.

<sup>54</sup>Id. at 1270. The court made a finding of fact that in the last ten years, Red-cockaded populations had declined 76% in the Sabine National Forest, 41% in the Davy Crockett National Forest, and 42% in the Angelina National Forest. Id. at 1266.

<sup>55</sup>Id. at 1271.

<sup>56</sup>471 F. Supp. 985 (D. Hawaii 1979), aff'd, 639 F. 2d 495 (9th Cir. 1981).

<sup>57</sup>Lyng, 694 F. Supp. at 1270.

clear cutting the forest harms the woodpeckers because it significantly modifies their habitat was sufficient for the court to find a section 9 violation.<sup>58</sup> Specifically, the court found: first, that isolation of the woodpecker colonies by clear cutting has altered essential behavioral patterns; second, isolation of woodpecker colonies interferes with breeding practices by making it more difficult to find mates; third, the removal of old pines reduces food availability; and fourth, even-aged management has eliminated the older pines needed by the woodpeckers for nesting cavities.<sup>59</sup> As the court stated, "this is not merely a situation where the recovery of a species is impaired by the agency's practices, but rather the agency's practices themselves have caused and accelerated the decline in the species."<sup>60</sup>

The court granted a permanent injunction preventing clear cutting and even-aged management within 1200 meters of Red-cockaded Woodpecker colonies;<sup>61</sup> it further ordered the midstory removal of hardwood trees around woodpecker colonies, the establishment of a basal area of sixty square feet per acre, within 1200 meters of any colony site, and the closing of timber roads within 1200 meters of any colony site.<sup>62</sup> In addition, the court required the preparation

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<sup>58</sup>Id. at 1271.

<sup>59</sup>Id.

<sup>60</sup>Id.

<sup>61</sup>Id. at 1278.

<sup>62</sup>Id.

of a "comprehensive plan" designed to maximize the probability of survival of the woodpeckers. The comprehensive plan was required to include a provision for periodic review of the plan.<sup>63</sup>

The decision in *Sierra Club v. Lyng* is an expansive interpretation of the ESA. *Sierra Club* follows *Organized Fishermen of Florida v. Andrus* in stressing the duty of federal agencies not only to halt the trend of a species towards extinction, but to reverse the trend until the species has recovered and the protection of the ESA is no longer needed.<sup>64</sup> This analysis places a greater burden on agencies than does the section 7(a)(2) requirement that insure agency action is not likely to jeopardize an endangered or threatened species.

#### IV. The Spotted Owl

The Spotted Owl (*Strix occidentalis*), is an inhabitant of old-growth Douglas-fir forest in the Northwestern United States.<sup>65</sup> There are indications that Spotted Owl populations in the Pacific Northwest have declined as a result of the loss of available old-

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<sup>63</sup>*Id.*

<sup>64</sup>*Id.* at 1270.

<sup>65</sup>Dawson, Ligon, Murphy, Myers, Simberloff & Verner, Report of the Scientific Advisory Panel on the Spotted Owl, 89 *Condor* 205 (1987) [hereinafter Dawson]. There are three recognized subspecies of the Spotted Owl. This article uses the term Spotted Owl to refer to the Northern Spotted Owl (*Strix occidentalis caurina*).

growth habitat to timber operations.<sup>66</sup> The owl was listed as a "management indicator species" under the provisions of the National Forest Management Act of 1976.<sup>67</sup> The purpose of indicator species is to provide an indication of the health of the ecosystem to which the indicator species belongs. The Spotted Owl was designated an indicator species because it was thought that the affects of timber harvests on this species would provide an early indication of how timber harvesting affected other species in the Douglas-fir ecosystem.<sup>68</sup> The designation of "indicator species" affords the owl some protection; federal agencies are required to maintain minimum viable populations of indicator species.<sup>69</sup> There is considerable debate over what constitutes a minimum viable population. Current estimates of total numbers of Spotted Owls in the Pacific States range between 4,000-6,000 individuals.<sup>70</sup> In 1984 the Final Regional Guide and Final Environmental Impact Statement for the Pacific

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<sup>66</sup>Id. The Spotted Owl exhibits a level of dependence on old-growth habitat similar to that of the Red-cockaded Woodpecker. The Spotted Owl does not construct nests, but instead uses naturally occurring sites. These sites are found more commonly in old-growth forest. It is not definitely known why the Spotted Owl is so dependent on old-growth habitat, but the fact that such a dependence exists has been determined. Id. at 210.

<sup>67</sup>16 U.S.C.A. §§ 1600-1614 (West 1989).

<sup>68</sup>Simberloff, The Spotted Owl Fracas: Mixing Academic, Applied, and Political Ecology, 68 *Ecology* 766, 767 (1987), citing Crain, Testimony to Advisory Panel on the Spotted Owl, 9 December, Sacramento, California, Report of the Advisory Panel on the Spotted Owl, Audubon Conservation Report 7 (1985).

<sup>69</sup>16 U.S.C.A. § 1604.

<sup>70</sup>Dawson, supra note 65, at 212.

Northwest Region recommended the creation of 375 Spotted Owl Management Areas (SOMAS) of 1,000 acres each.<sup>71</sup> Following an appeal by a number of environmental groups, a 1986 supplement to the regional guide recommended 550 SOMAS of between 1,000-2,700 acres of old-growth forest each.<sup>72</sup> The creation of 550 SOMAS protect only about 1,100 Spotted Owls; this represents a conscious reduction of Spotted Owl populations. This conscious decision raises not only the question of what a minimum viable population is, as set out in the NFMA, but also raises the question at what point should the Spotted Owl qualify as a threatened or endangered species as set out in the ESA.

The Spotted Owl is not currently on the endangered species list. A petition to have the owl listed as endangered was denied by the U.S. Fish and Wildlife Service in December of 1987.<sup>73</sup> This decision was challenged in Northern Spotted Owl v. Hodel.<sup>74</sup>

In Northern Spotted Owl, the court held that the USFWS decision not to list the Spotted Owl was arbitrary and capricious and remanded the matter to the agency for further consideration.<sup>75</sup> The court stated that agency action will be found arbitrary and

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<sup>71</sup>Id. at 206.

<sup>72</sup>Id.

<sup>73</sup>52 Fed. Reg. 48,552 (1987). The USFWS found that listing the Northern Spotted Owl "throughout all of its range" was not warranted. Id.

<sup>74</sup>716 F. Supp. 479 (W.D. Wash. 1988).

<sup>75</sup>Id. at 483.

capricious if the agency does not explain how its decision relates to the evidence presented.<sup>76</sup> The court noted that in highly technical cases, the arbitrary and capricious standard warrants a probing inquiry of the facts.<sup>77</sup> In examining the USFWS's decision not to list the owl, the court found that the USFWS had disregarded the opinion of its experts that the Spotted Owl is facing extinction, and that this was sufficient grounds to remand the matter for further consideration.<sup>78</sup>

The USFWS recently announced its decision to list the Northern Spotted Owl as a threatened species.<sup>79</sup> It is not clear how listing the owl as a threatened species will affect the management plans that were developed under the NFMA. Threatened species do not automatically receive the same protection as endangered species; section 4(d) provides that the Secretary "shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species."<sup>80</sup> In *Sierra Club v. Clark*<sup>81</sup>, the Eighth Circuit prevented the Secretary from instituting a hunting season on the Eastern Timber Wolf in Minnesota, where the wolf is listed as a threatened species. The Eighth Circuit determined that

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<sup>76</sup>Id.

<sup>77</sup>Id.

<sup>78</sup>Id.

<sup>79</sup>54 Fed. Reg. 26,666 (1989).

<sup>80</sup>ESA § 4(d), 16 U.S.C.A. § 1533 (d) (Environmental Law Statutes West 1989).

<sup>81</sup>755 F.2d 608 (8th Cir. 1985).

section 4(d) requires the Secretary to take such steps that are necessary to bring the population of a threatened species to the point where the protection of the ESA is no longer required.<sup>82</sup> Under the Eighth Circuit's interpretation of section 4(d), no intentional reduction of Spotted Owl populations would be allowed. In order to protect 4,000 Spotted Owls, a total of 2,000 SOMAS would have to be created. This would entail setting aside between 2 million and 5.4 million acres of old-growth forest. Timber in old-growth forest was valued at \$4,000 per acre in 1985.<sup>83</sup> Based on this valuation, protection of 2 million acres equals \$8 billion worth of timber. The decision to list the Spotted Owl will have a potentially enormous economic impact. As a result, efforts to protect the Spotted Owl have engendered a controversy that represents the biggest test of the ESA since the Snail Darter.<sup>84</sup>

#### V. Species Conservation

In *Sierra Club v. Lyng*, the court stated that the evidence of Red-cockaded Woodpecker population declines left it "with the firm persuasion that we are presiding over the last rites of this cohabitant of the blue planet."<sup>85</sup> In finding for injunctive relief, the court found that irreparable harm would result if action was

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<sup>82</sup>Id. at 613.

<sup>83</sup>Simberloff, supra note 68, at 767.

<sup>84</sup>See text accompanying notes 19-23 supra.

<sup>85</sup>*Sierra Club v. Lyng*, 694 F. Supp. at 1265.

not taken immediately. The court stated, "The woodpeckers are on the verge of extinction and the steadily declining population necessitates the actions cited."<sup>86</sup> The court concluded by stating, "the bird wins in this, his latest struggle for survival."<sup>87</sup> Whether this victory can prevent the extinction of this species is the critical question; it is a question that pervades any analysis of species conservation. Can the Endangered Species Act prevent the extinction of a species? Can the purposes of the ESA be achieved through the provisions of the Act?

A number of commentators have criticized the ESA for being too species-focused in an era when habitat destruction is the major cause of extinctions and whole ecosystems are threatened.<sup>88</sup> Instead of a species by species approach, these commentators advocate placing an emphasis on the preservation of ecosystems and species diversity. Although a stated purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered species depend may be conserved",<sup>89</sup> the only provision for the conservation of habitat is the section 4 critical habitat designation. Habitat utilized by a species is not protected under the ESA unless it has been designated as critical habitat, but there have been relatively

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<sup>86</sup>Id. at 1277.

<sup>87</sup>Id. at 1278.

<sup>88</sup>See generally Smith, *The Endangered Species Act and Biological Conservation*, 57 *S. Cal. L. Rev.* 361 (1984); Sagoff, *On the Preservation of Species*, 7 *Colum. J. Env'tl. L.* 33 (1980).

<sup>89</sup>ESA §2(b), 16 U.S.C. §1531(b) (Environmental Law Statutes West 1989).

few critical habitat designations. Sixty-seven bird species within the United States and Puerto Rico have been placed on the endangered species list;<sup>90</sup> critical habitat has been designated for only ten of these species.<sup>91</sup> No critical habitat has been designated for the Red-cockaded Woodpecker.<sup>92</sup> Many of these species were on the endangered species list before section 4 was amended to require a designation of critical habitat. Section 4(a)(3)(B)<sup>93</sup> does provide for revision of critical habitat designations, however, and critical habitat could be designated for the protected species for which critical habitat has never been designated. Section 4 allows the Secretary to consider the economic impact of making a critical habitat designation and for this reason it is unlikely that a critical habitat designation will be made on behalf of the Spotted Owl.

The American Ornithologist's Union Committee for the Conservation of the Red-cockaded Woodpecker recommended that the woodpecker and the old-growth forests be managed as a unit.<sup>94</sup> In *Sierra Club v. Lyng*<sup>95</sup>, the court ordered an injunction which prevents harmful Forest Service management practices within 1200

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<sup>90</sup>50 C.F.R. 17.11.

<sup>91</sup>50 C.F.R. 17.95.

<sup>92</sup>*Id.*

<sup>93</sup>ESA §4(a)(3)(B), 16 U.S.C. §1533 (a)(3)(B).

<sup>94</sup>*Ligon, supra* note 35, at 852.

<sup>95</sup>694 F. Supp. 1260 (E.D. Tex. 1988).

meters of Red-cockaded colonies. This is a remedy that focuses specifically on the well-being of individual colonies. As a result, the habitat that is essential to the continued viability of the woodpecker populations can continue to be fragmented. Habitat fragmentation was a central concern of the American Ornithologist's Union Committee. As the Committee pointed out, habitat fragmentation can lead to increased juvenile mortality as juveniles disperse in search of breeding sites; it can also make it more difficult for individuals to find mates.<sup>96</sup> In recommending that the Red-cockaded Woodpecker and the forest be managed as a unit, the Committee noted that a number of all male social groups have been observed, indicating mate location may be a growing problem as habitat becomes increasingly fragmented.<sup>97</sup>

The recommended creation of Spotted Owl Management Areas is similar to the court ordered injunction in *Sierra Club v. Lyng* in that there is the potential to focus on individual pairs of owls rather than on populations. The Red-cockaded Woodpecker has not increased in numbers anywhere in its range since it was placed on the endangered species list.<sup>98</sup> It is unlikely that the Spotted Owl will fare any better if similar management practices are employed.

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<sup>96</sup>Id. at 851.

<sup>97</sup>Id.

<sup>98</sup>Ligon, supra note 35, at 848.

## VI. Conclusion

The procedural safeguards of the Endangered Species Act cause too much emphasis to be placed on protected species at the expense of the ecosystems upon which these species depend. One result of this emphasis is likely to be an increase in the number of species threatened by extinction because of continued habitat alteration. For the species that are already on the endangered species list, the haphazard protection of habitat can only lead to the perennial status of threatened or endangered. The Spotted Owl is about to join the species on the endangered species list; the Red-cockaded Woodpecker has been on the list for nineteen years. Whether either species will recover sufficiently to be removed from the list depends on the manner in which their habitat is managed. The management of habitat under the Endangered Species Act provides no reason for optimism.