

# REFUSING TO RELEGATE HAPPINESS TO HEAVEN? THE UNITED STATES' PROTECTION OF DOMESTIC SPECIES WITH VIABLE FOREIGN POPULATIONS

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## INTRODUCTION

In December 2003, *The New York Times* published a letter from a reader who inquired about the progress of a bald eagle fledgling project in Inwood Hill Park at the northern tip of Manhattan.<sup>1</sup> Bald eagles were once regular inhabitants of the Hudson Valley, but DDT, hunting, egg theft, and other factors diminished their numbers; now they are a novelty.<sup>2</sup> The fledgling project brings eaglets from Wisconsin to Inwood, where they are initially kept in “hack boxes” (like “treehouses for birds,” the *Times* reader says) and then released several weeks later.<sup>3</sup> The program is now in the fourth year of a five-year program. It receives financial support from BP, and a local supermarket provides sixteen pounds of fish each day for the birds.<sup>4</sup>

The Eagle Reintroduction Program is a local instance of a

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<sup>1</sup> George Robinson, *F.Y.I.: America’s Baby Birds*, N.Y. TIMES, Dec. 14, 2003, at 14.2.

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> See New York City Dep’t of Parks and Recreation, Our Partners, [http://www.nycgovparks.org/sub\\_about/parks\\_divisions/urban\\_park\\_rangers/eaglecampa/partners.html](http://www.nycgovparks.org/sub_about/parks_divisions/urban_park_rangers/eaglecampa/partners.html) (last visited Apr. 12, 2006).

more widespread phenomenon in which local and state governments collaborate with the federal government (in this case with ample support from the private sector) to protect an isolated population of a species—or, in the case of the Inwood Hill Park eagles, to reintroduce a population—despite the existence of viable populations of the species elsewhere in the world.<sup>5</sup> In 2004, there were eighty-six animal species for which some or all of the population had been listed as endangered and/or threatened under the federal Endangered Species Act (“ESA”) and for which the historical range included areas both within and outside U.S. borders.<sup>6</sup> Some of these species such as the bald eagle, grizzly bear, and gray wolf fit into the category on which this Note focuses—species with imperiled U.S. populations but with more commonly occurring foreign populations.

For species like the bald eagle with relatively healthy populations outside the U.S., listing was at least at first relatively uncontroversial.<sup>7</sup> Now, more than thirty years later, the bald eagle is heralded as an ESA success story,<sup>8</sup> and the Fish and Wildlife Service (“FWS”) has also proposed the delisting of the

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<sup>5</sup> Bald eagles are listed as a threatened species in the contiguous United States. Final Rule to Reclassify the Bald Eagle From Endangered to Threatened in All of the Lower 48 States, 60 Fed. Reg. 36,000, 36,000 (July 12, 1995). Populations of bald eagles in Canada and Alaska are not at risk. *See id.*

<sup>6</sup> This number was arrived at by generating a report of all endangered animal species from the Threatened and Endangered Species System on March 30, 2004, <http://endangered.fws.gov/wildlife.html#Species> (last visited Mar. 21, 2006). From that report, a filtered list of all listed species with historical range in the U.S. and another country was created. See Table 1 for a list of the countries in which endangered or threatened species with historical range in the U.S. had additional historical range, and see Table 2 for a list of the endangered and threatened species whose historical range existed in both the U.S. (or its territories) and another country. [NB: not all of these species have commonly occurring populations in other countries.]

<sup>7</sup> *See, e.g.*, Determination of Certain Bald Eagle Populations as Endangered or Threatened, 43 Fed. Reg. 6230, 6231–32 (Feb. 14, 1978) (describing receipt of letters supporting extension of ESA protections to bald eagles in forty-eight contiguous states from governors of twenty-four states and receipt of letters expressing varying degrees of disapproval or concern from only eight state governors).

<sup>8</sup> *See, e.g.*, Felicity Barringer, *Thriving Bald Eagle Finding Its Way Off Endangered List*, N.Y. TIMES, May 19, 2004, at A19; Environmental Defense, *Endangered Species: Back from the Brink*, <http://www.backfromthebrink.org/home.cfm> (last visited Apr. 20, 2006) (“[I]t’s time to celebrate America’s greatest species comeback by declaring victory for our national symbol, the bald eagle.”).

Yellowstone grizzly bear population.<sup>9</sup> The controversy over the proposed grizzly bear delisting highlights some of the issues raised by protection of species' domestic populations. The disputes over what constitutes recovery probe the question of what the ESA was designed to accomplish, the same question that must be considered when determining whether domestic populations merit ESA protection. Some observers look at the Yellowstone grizzly bear population and see a comeback story, while others look at it and see an isolated population that is cornered and vulnerable.<sup>10</sup> The current issues about delisting can be illuminated by an examination of what makes a domestic population of a species significant enough to warrant protection under the ESA despite the existence of foreign populations whose chances of survival are less bleak.

Part I of this Note will introduce the statutory framework of the ESA's listing procedure, with an emphasis on the terms that are most crucial for understanding the threshold at which the ESA protects U.S. species that are not imperiled worldwide. Those terms include the word "species" itself and "distinct population segment," an ESA-specific term that is part of the definition of species,<sup>11</sup> as well as the terms "endangered species" and "threatened species."<sup>12</sup> A consideration of the ESA's legislative history follows, along with administrative and judicial interpretations of statutory terms. Part I finishes with an examination of how these interpretations play out when applied to species with domestic populations in danger of extinction yet with relatively healthy foreign populations. Part II introduces and discusses the theories that are generally thought to underpin the ESA and discusses the motivations for and purposes of the ESA in terms of their viability as rationales for listing species with limited

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<sup>9</sup> See, e.g., Juliet Eilperin, *Grizzlies May Lose Endangered Status*, WASH. POST, May 30, 2004, at A3; David Quammen, Op-Ed: *A Bear's Necessities*, N.Y. TIMES, Jan. 18, 2006, at A19 (arguing that despite its resurgence since 1975, the Yellowstone grizzly population is "constrained, marginal, genetically depauperate and threatened (yes 'threatened' is the right word) by various combinations of possible and inevitable trouble"); Jim Robbins, *Yellowstone Grizzly May Lose Endangered Status*, N.Y. TIMES, Nov. 16, 2005, at A14 (noting that conservation groups are divided in their support of delisting Yellowstone grizzlies).

<sup>10</sup> See Quammen, *supra* note 9.

<sup>11</sup> See *infra* Part I.B.

<sup>12</sup> See *infra* Part I.C.

U.S. populations but with substantial foreign populations. This Part also discusses the compelling case for listing such species despite the practical limitations on the ESA's implementation.

#### I. HOW THE ENDANGERED SPECIES ACT PROTECTS DOMESTIC POPULATIONS OF SPECIES WITH FOREIGN POPULATIONS

In order to protect a species under the ESA, the FWS or NOAA Fisheries<sup>13</sup> (collectively "the Services") must determine through the ESA listing process that a species meets the federal statutory standards that delineate the boundaries for ESA protection. Section A of this Part briefly describes this listing process. Section B discusses the ESA's definition of the term "species," dealing in particular with the inclusion of "distinct population segments" in the definition—a key term with respect to the listing of species with populations in multiple countries. Section C addresses statutory terms that determine whether a species will be listed as endangered or threatened, focusing on the language requiring a species to be "in danger of extinction throughout all or a significant portion of its historic range." This requirement also affects the outcomes of listing determinations for species with populations in multiple countries. Section D examines the ESA decision-making process for the Canada lynx as a recent case study of the application of these statutory terms to a species that is "naturally rare" in the continental U.S.

##### A. *The Listing Process*

The ESA's listing process resembles many other notice and comment rulemaking processes. Either the Secretary of the Interior or the Secretary of Commerce may initiate the listing process.<sup>14</sup> In addition, any "interested person" may submit a

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<sup>13</sup> NOAA Fisheries is also known as the National Marine Fisheries Service. NOAA Fisheries—National Marine Fisheries Service, <http://www.nmfs.noaa.gov> (last visited Apr. 20, 2006).

<sup>14</sup> See 16 U.S.C. § 1533(a)(1) (2000); see also *id.* § 1532(15) (defining "Secretary" as, "except as otherwise herein provided, the Secretary of the Interior or the Secretary of Commerce"). The Secretary of the Interior is responsible for all terrestrial species, as well as freshwater fish, while the Secretary of Commerce is responsible for saltwater and anadromous species. Peter A. Buchsbaum et al., *The Federal Government and Land Use: The Not so Quiet Evolution Continues*, 28 URB. LAW 517, 536 (1996); see also 16 U.S.C. § 1533(a); Reorg. Plan No. 4 of 1970, 35 Fed. Reg. 15627–30 (1970).

petition to the appropriate Secretary to add (or remove) a species from the list,<sup>15</sup> after which the Secretary must respond with a finding that listing or delisting is either unwarranted, warranted, or warranted but precluded by higher-priority listing activities.<sup>16</sup> Negative findings after such petitions are subject to judicial review.<sup>17</sup> Petitions and subsequent litigation by environmental groups often drive the listing process. For instance, between 1992 and 2000, citizen participation spurred ninety-two percent of listings of species in the state of California.<sup>18</sup>

A decision to list a species must rest on a determination that the species is endangered or threatened because of one or more of the following factors:

- (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) overutilization for commercial, recreational, scientific, or educational purposes;
- (C) disease or predation;
- (D) the inadequacy of existing regulatory mechanisms; or
- (E) other natural or manmade factors affecting its continued existence.<sup>19</sup>

Each Secretary must make listing determinations

solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation to protect such species.<sup>20</sup>

The agencies are not to consider costs in their listing decisions. That is, the economic ramifications of the protections that kick in after a species' listing should not be a factor. The primary

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<sup>15</sup> 16 U.S.C. § 1533(b)(3)(A). Such petitions are made under the authority of the Administrative Procedures Act. *See* 5 U.S.C. § 553(e) (2000).

<sup>16</sup> 16 U.S.C. § 1533(b)(3)(B)(i)–(iii).

<sup>17</sup> *Id.* § 1533(b)(3)(C)(ii).

<sup>18</sup> *See* KIERAN SUCKLING, CTR. FOR BIOLOGICAL DIVERSITY, NO ROOM ON THE ARK? ENDANGERED SPECIES LISTING TRENDS IN CALIFORNIA 1974–2000, at 5 (2000), available at <http://www.sw-center.org/swcbd/activist/ESA/ark.pdf>.

<sup>19</sup> 16 U.S.C. § 1533(a)(1)(A)–(E).

<sup>20</sup> *Id.* § 1533(b)(1)(A).

protective provisions include the designation of critical habitat,<sup>21</sup> a prohibition on takings by any party,<sup>22</sup> and a required consultation process for any federal agency action to insure that the action will not “jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of [critical habitat].”<sup>23</sup> These provisions impose significant costs on both public and private parties.

Three terms in the ESA’s definitions section describe the parameters for determining which organisms will benefit from these extensive protections: “species,” “endangered species,” and “threatened species.” The following two sections discuss the elements of these statutory parameters that affect listing decisions for species with limited U.S. populations but more commonly occurring foreign populations: (1) the inclusion of “distinct population segment” in the definition of “species”<sup>24</sup> and (2) the incorporation of the phrase “in danger of extinction throughout all or a significant portion of its range” into the definitions of “endangered species” and “threatened species.”<sup>25</sup> An examination of these terms reveals how they have been used to direct the implementation of the ESA when species have populations inside and outside the U.S.

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<sup>21</sup> *Id.* § 1533(b)(6)(C).

<sup>22</sup> *Id.* § 1538(a). “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19). FWS has broadly construed the “harm” term within the definition of “take” to mean “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” 50 C.F.R. § 17.3 (2005); *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 708 (1995) (upholding FWS’s definition of “harm”). This definition has the potential to constrain activity that impinges on an endangered species’ habitat to any significant extent.

<sup>23</sup> 16 U.S.C. § 1536(a)(2).

<sup>24</sup> *Id.* § 1532(16).

<sup>25</sup> *Id.* § 1532(6), (20).

B. *The Definition of “Species” and the Concept of “Distinct Population Segment”*

1. *What Congress Hoped to Accomplish with “Distinct Population Segments”*

This section will discuss the ESA-specific concept of “distinct population segment” (“DPS”), which is one component of the ESA’s “species” definition.<sup>26</sup> “Distinct population segment” is not a term used in the scientific community, and Congress did not define the term. Although the DPS concept has been defined for the most part by biological considerations, the ESA’s definition of species has never rigidly adhered to a science-based, biological concept of species and still makes room for consideration of political boundaries, a nonbiological factor.<sup>27</sup> The allowance for consideration of nonbiological factors suggests that a population segment’s “distinctness” can be a product of more than just its biological significance and that a species’ population in the U.S. may warrant listing for reasons that are not entirely biological.

Under the ESA, “the term ‘species’ includes any subspecies of fish or wildlife or plants, and any *distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.*”<sup>28</sup> Congress added this “distinct population segment” language to the ESA when it was amended in 1978,<sup>29</sup> broadening the definition of “species” so that it was “not restricted to species as recognized in formal taxonomic terms.”<sup>30</sup> The amendment’s purpose was to give the Services more flexibility to list a species when information about a species’ condition was limited and when its domestic populations were in precarious condition. In 1979, a

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<sup>26</sup> *Id.* § 1532(16).

<sup>27</sup> See *infra* text accompanying notes 34, 39, and 51.

<sup>28</sup> 16 U.S.C. § 1532(16) (emphasis added).

<sup>29</sup> Pub. L. No. 95-632, § 2(5), 92 Stat. 3751, 3752 (1978) (codified at 16 U.S.C. § 1532(16) (2000)). Originally, the ESA defined “species” to include not only species but also “any subspecies of fish or wildlife or plants and any other group of fish or wildlife of the same species or smaller taxa in common spatial arrangement that interbreed when mature.” Endangered Species Act of 1973, Pub. L. No. 93-205, § 3(11), 87 Stat. 884, 886 (1973) (codified as amended at 16 U.S.C. § 1532(16)).

<sup>30</sup> Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722, 4722 (Feb. 7, 1996) [hereinafter DPS Policy].

Senate Report explained the decision to include distinct population segments in the definition of “species” in terms of these purposes:

The committee agrees that there may be instances in which FWS should provide for different levels of protection for populations of the same species. *For instance, the U.S. population of an animal should not necessarily be permitted to become extinct simply because the animal is more abundant elsewhere in the world.* Similarly, listing populations may be necessary when the preponderance of the evidence indicates that a species faces a widespread threat, but conclusive data is available with regard to only certain populations.<sup>31</sup>

Courts have latched on to this legislative history as the basis for establishing congressional intent to allow for a more flexible, precautionary approach to listing. In 1996, a district court in Arizona thought this broader definition of species to be

based on a consistent policy decision by Congress that the United States should not wait until an entire species faces global extinction before affording a domestic population segment of a species protected status. For example, the bald eagle while not listed in Alaska, has been listed in the lower 48 states. Thus, the ESA allows the United States to adopt different management practices to ensure the appropriate level of protection for a species based on its actual biological status.<sup>32</sup>

This district court decision describes a congressional intent to protect domestic populations (rather than only to attempt to prevent global extinctions). Part of the court’s explanation sounds like an efficiency argument—looking for the greatest benefits at the least cost. By more accurately matching a species’ biological status to the protection it gets, the ESA could more efficiently protect endangered species. Whereas the “efficiency” justification for DPSs suggests that their function is to match the ESA’s policies to a species’ biology, a commitment to the preservation of domestic populations for reasons having nothing to do with biology may also exist.<sup>33</sup>

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<sup>31</sup> S. REP. NO. 96-151, at 7 (1979) (emphasis added).

<sup>32</sup> Sw. Ctr. for Biological Diversity v. Babbitt, 926 F. Supp. 920, 924 (D. Ariz. 1996) (citations omitted).

<sup>33</sup> See, e.g., COMM. ON SCIENTIFIC ISSUES IN THE ENDANGERED SPECIES ACT, NAT’L RESEARCH COUNCIL, SCIENCE AND THE ENDANGERED SPECIES ACT 64



## 2. *Criteria for a “Distinct Population Segment”*

The foregoing excerpts from the Senate Report and the district court decision provide some insight into the reasons for including DPSs in the definition of species. An examination of the criteria for DPSs bolsters the conclusion that while primarily geared towards an efficient, biologically sensitive implementation of the ESA, DPSs also leave room for consideration of nonbiological factors such as international borders. Although the situations in which such nonbiological factors may be explicitly considered are limited, even the purely biological criteria for a population segment’s “distinctness” are malleable, and can be influenced by different views of what the ESA is designed to protect. The DPS criteria make possible the listing of U.S. populations of species with substantial foreign populations, but views of what the ESA is designed to protect will affect the extent to which the ESA is used to protect such domestic populations.

The Services at first struggled to find a way to apply the DPS concept consistently in their listing determinations. The agencies went through several iterations of draft guidelines before finalizing a DPS policy in 1996.<sup>34</sup> Originally, the identification of DPSs relied primarily on natural geographical boundaries such as rivers and mountains and sometimes on political boundaries that demarcated zones with different regulatory protections.<sup>35</sup> As the amount and quality of biological information available increased, the Services moved from a reliance on political boundaries to a reliance on biological evidence to distinguish DPSs.<sup>36</sup>

The Services’ attempts to align their policy with good science at first resulted in a great deal of chaos. Before the Services finalized their DPS policy in 1996, the Services had “widely

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(1995) (“In the case of the American bald eagle, and in other similar cases, there might well be persuasive reasons to conserve taxa distinguished by political jurisdiction (including ethical and aesthetic reasons).”).

<sup>34</sup> See DPS Policy, 61 Fed. Reg. at 4722; Draft Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act; Request for Public Comment, 59 Fed. Reg. 65,884 (Dec. 21, 1994); *Southwest Center for Biological Diversity v. Babbitt* mentions at least three other DPS policies that had been circulated. 926 F. Supp. at 926–27.

<sup>35</sup> See Kate Geoffroy & Thomas Doyle, *Listing Distinct Population Segments of Endangered Species: Has It Gone Too Far?*, 16 NAT. RESOURCES & ENV’T 82, 87 (2001); *Sw. Ctr. for Biological Diversity*, 926 F. Supp. at 924.

<sup>36</sup> *Sw. Ctr. for Biological Diversity*, 926 F. Supp. at 924.

divergent policies”<sup>37</sup> that, if followed, could have resulted in a myriad of different outcomes. One court found that these multifarious sets of criteria created an unacceptable environment where decision-making bodies could dodge accountability by relying on one or another set of criteria.<sup>38</sup>

When the Services settled on a final policy in 1996, they required that a DPS meet three successive criteria. First, the population segment must be “discrete.” To be considered discrete, a population segment must be either (1) “markedly separated from other populations” based on “physical, physiological, ecological, or behavioral factors” or (2) “delimited by international governmental boundaries within which” significant differences exist “in control of exploitation, management of habitat, conservation status, or regulatory mechanisms.”<sup>39</sup> Second, the population segment must be biologically and ecologically “significant.” Significance can be established by (1) persistence in an unusual or unique ecological setting, (2) evidence that loss of the DPS would result in a significant gap in the taxon’s range, (3) evidence that the DPS represents the only surviving natural occurrence of a taxon, and (4) evidence that the DPS’s genetic characteristics differ markedly from other populations of the species.<sup>40</sup> Finally, a discrete and significant population segment must meet Section 4’s criteria for listing a species.<sup>41</sup> The Services follow these three steps—testing first for discreteness, then for significance, and finally for whether the listing criteria are met—to determine whether to extend ESA protection to domestic populations when there are also foreign populations.

The Services’ announcement of the final DPS policy included the following justification for listing DPSs, which closely tracks and elaborates on the legislative history for the DPS amendment:

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<sup>37</sup> *Id.* at 927.

<sup>38</sup> *Id.* The court here rejected the FWS’s ninety-day negative finding on a petition to list the northern goshawk because the FWS had “arbitrarily demanded concrete proof of genetic differentiation . . . in contrast to a contrary course of conduct” in the past. *Id.* at 926, 928. As evidence, the court enumerated a list of endangered and threatened species whose listing criteria had not included proof of genetic differentiation, including the Louisiana black bear, burrowing owl populations, and the bald eagle. *Id.* at 926.

<sup>39</sup> DPS Policy, 61 Fed. Reg. at 4725.

<sup>40</sup> *Id.*

<sup>41</sup> *Id.*; see also *supra* note 19 and accompanying text.

Listing, delisting, or reclassifying distinct vertebrate population segments may allow the Services to protect and conserve species and the ecosystems upon which they depend before large-scale decline occurs that would necessitate listing a species or subspecies throughout its entire range. This may allow protection and recovery of declining organisms in a more timely and less costly manner, and on a smaller scale than the more costly and extensive efforts that might be needed to recover an entire species or subspecies. The Services' ability to address local issues (without the need to list, recover, and consult rangewide) will result in a more effective program.<sup>42</sup>

This statement describes an interest in efficiency—more benefits for less cost—as well as a desire to be responsive to “local issues.” The Services also emphasize that they must exercise restraint when determining whether the listing of a DPS is warranted, citing Congress's intent that DPSs be used “sparingly.”<sup>43</sup>

The Services' focus on efficient management and abstemiousness in the use of DPSs seems to curtail the impact of nonbiological factors such as international borders, which would reduce the chances of a U.S. population of a species being listed as a DPS. The Services continue to allow international boundaries to play a role in determining discreteness, but when a boundary is merely political (i.e., populations are not “markedly separated”<sup>44</sup> by a natural barrier such as a river, lake, or mountain range), the political boundary must signal a difference in the protections extended to a given species. In its 1996 finding for the western U.S. fisher population, the FWS set what appeared to be a higher threshold for geographic isolation as an indicator of discreteness.<sup>45</sup> The Service described a resurgent population of fishers in the eastern U.S. and wrote that “the contiguous range of fishers across North America allows free interchange of genes,” indicating that

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<sup>42</sup> DPS Policy, 61 Fed. Reg. at 4725.

<sup>43</sup> See DPS Policy, 61 Fed. Reg. at 4722 (quoting S. REP. NO. 96-151 (1979)).

<sup>44</sup> *Id.* at 4725.

<sup>45</sup> See 90-Day Finding for a Petition To List the Fisher in the Western United States as Threatened, 61 Fed. Reg. 8016 (Mar. 1, 1996). This finding cites the 1994 draft DPS policy, but the “discreteness” criteria are the same as in the final policy. *Id.* at 8017; DPS Policy, 61 Fed. Reg. at 4725; Draft Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act; Request for Public Comment, 59 Fed. Reg. 65,884, 65,885 (Dec. 21, 1994).

the Canadian and eastern U.S. populations were not separate from the western U.S. population.<sup>46</sup> The existence of an “international boundary” could delimit a population if there were “significant differences in control of exploitation, management of habitat, conservation status or regulatory mechanisms.”<sup>47</sup> In the case of the fisher, however, the petitioners for listing had not presented evidence of differences in habitat management, conservation status, or regulatory mechanisms in Canada. Their petition to list was therefore denied.<sup>48</sup>

The DPS concept and the Services’ three-step method have received a scientific stamp of approval in a report from the National Research Council (“NRC”),<sup>49</sup> which found that the DPS policy’s discreteness and significance criteria corresponded with what NRC considered a valid “evolutionary unit” (“EU”).<sup>50</sup> Nevertheless, the recognition of a DPS does not correspond

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<sup>46</sup> 90-Day Finding for a Petition To List the Fisher in the Western United States as Threatened, 61 Fed. Reg. at 8017.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* The FWS justified the refusal to list by noting that, in decisions to list U.S. populations of species such as the caribou, the population almost always warranted listing throughout the species’ entire range within the contiguous U.S. *See id.*; *see also* Determination of Endangered Status for the Population of Woodland Caribou Found in Washington, Idaho, and Southern British Columbia, 49 Fed. Reg. 7390, 7390–91 (Feb. 29, 1984). Specifically, here the caribou were geographically isolated subpopulations within the U.S. *Id.*

<sup>49</sup> *See* COMM. ON SCIENTIFIC ISSUES IN THE ENDANGERED SPECIES ACT, *supra* note 33, at 67 (“The ESA’s inclusion of distinct population segments—i.e., taxa below the rank of subspecies—is . . . soundly based on scientific evidence.”). The members of the National Research Council are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. NRC reports are prepared by committees whose members are “chosen for their special competences and with regard for appropriate balance.” *Id.* at ii.

<sup>50</sup> *See id.* at 57–62. NRC’s concept of the EU defines the distinctiveness of a population segment in terms of whether the population segment has an “independent evolutionary future,” based on evidence such as genetic isolation, geographic and temporal isolation, and behavioral and reproductive isolation, the same factors that are considered for DPSs. *Id.* Genetic isolation is “evidence for physical or reproductive isolation,” *id.* at 58, which in turn can be associated with ensuring an independent evolutionary future. *Id.* Geographic and temporal isolation likewise are indicators of the potential for unique evolutionary development. *See id.* at 59 (describing pink salmon, which, because they have a two-year life cycle, do not interbreed with other pink salmon spawned only one year earlier or later). Differences in behavior or reproductive mechanisms also increase the chances of an independent evolutionary future. *See id.* at 59, 62.

completely with the NRC report's EU concept. The report acknowledges that there may be nonbiological policy reasons such as ethics or aesthetics for recognizing DPSs based purely on the existence of a political boundary.<sup>51</sup>

The NRC report also said that while the DPS concept may not protect a species from disappearing from a geographic region, this lack of protection is not due to a failure of the DPS or evolutionary unit concept but instead to the DPS policy's reflection of the ESA's purpose—namely, preserving individual species instead of biological diversity. The report responded to the argument that a focus on whether a population segment is an independent evolutionary unit fails to adequately protect endangered species:

It is surely true that many listed species are endangered because widely distributed EUs were permitted to decline until they became imperiled, but this is not a flaw of the EU concept. Such a management strategy is bad for conservation, but the ESA and its regulations are intended to protect threatened and endangered species, not to prevent them from becoming threatened and endangered. Preventing species from becoming threatened and endangered is essential for preserving biological diversity, and additional conservation and management plans beyond the provisions of the ESA are needed to achieve that goal.<sup>52</sup>

This part of the NRC's report echoes a frequent criticism and fundamental conundrum of the ESA—that it is focused too much on emergency-room care for endangered species and not enough on preserving biodiversity.

C. *The Definitions of "Endangered Species" and "Threatened Species"*

In addition to the opportunity to protect U.S. distinct population segments, the ESA, in its definition of "endangered species," also provides a hook for protecting species with at-risk populations in the U.S. but healthy populations elsewhere. This Section's analysis suggests that the interpretation of "endangered species" is particularly significant because it focuses on the preservation of the historical distribution of a species, which in

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<sup>51</sup> See *id.* at 58, 62–65.

<sup>52</sup> *Id.* at 65.

turn potentially implies a focus on extra-biological values. A federal magistrate judge in 2002 went so far as to say that it is “well established that even if healthy populations of species are present across the border, a species may still be listed in its historical range in the United States.”<sup>53</sup> Based on the definition of “endangered species,” it is possible to list an entire species, as opposed to just a DPS, if its range within the U.S. is significant enough. Like the listings of DPSs, such listings serve the ESA’s goals of protecting a species before it is in danger of global extinction and of preserving a species’ genetic variability.

The listing of an entire species based on its diminishing presence in its historical range in the U.S. is grounded in the ESA’s definitions of “endangered” and “threatened,” the thresholds at which the protections of the ESA kick in.<sup>54</sup> The ESA defines both “endangered” and “threatened” in terms of a species’ status “throughout all or a significant portion of its range.”<sup>55</sup> An “endangered species” is “any species which is in danger of extinction throughout all or a significant portion of its range.”<sup>56</sup> The Ninth Circuit referred to this definition as “puzzling” and “internally inconsistent,” and said that “the phrase ‘extinc[t] throughout . . . a significant portion of its range’ is something of an oxymoron,” concluding that “the statute is therefore inherently ambiguous, as it appears to use language in a manner in some tension with ordinary usage.”<sup>57</sup> From this perspective, the definition of “threatened species” could be even more perplexing. The ESA defines “threatened species” as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”<sup>58</sup> The layering and internal referencing in this definition suggests that the threshold for listing a species as threatened may be particularly complicated, at least linguistically. Pulling the language of the “endangered species” definition into the definition of a “threatened species” produces the following definition: a threatened species is

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<sup>53</sup> Sw. Ctr. for Biological Diversity v. Norton, Civ. No. 98-934, 2002 WL 1733618, at \*14 (D.D.C. July 29, 2002).

<sup>54</sup> 16 U.S.C. § 1533(a)(1) (2000).

<sup>55</sup> *Id.* § 1532(6), (20).

<sup>56</sup> *Id.* § 1532(6).

<sup>57</sup> *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1141 (9th Cir. 2001).

<sup>58</sup> 16 U.S.C. § 1532(20).

“any species which is likely to become [in danger of extinction throughout all or a significant portion of its range] within the foreseeable future throughout all or a significant portion of its range.” Most species that come before the Services probably will not require those agencies to test the limits of this perplexing-sounding definition. Yet rare species within the U.S. that are plentiful elsewhere could test those limits because their mere presence in the U.S. may have an incremental effect on the “significance” of the range that is disproportionate to the physical size of its population.

Examining and extrapolating from judicial interpretations of the clause “significant portion of its range” can provide a glimpse of how a species that still has substantial foreign populations would be handled under the ESA. The Services must determine whether significance refers only to the size of the range or whether it also may encapsulate other factors that might contribute to significance—perhaps whether a portion of range is important for breeding or for preserving genetic diversity. Furthermore, the determination of whether a species’ range reaches the statutory “significance” threshold requires a range of subjective judgments with respect to each of the factors in Section 4 of the ESA. Therefore, the presence of the word “significant” in the ESA’s definition of “endangered species” allows the Services a great deal of discretion.

The courts, however, can and have limited that discretion. In a case in which the Defenders of Wildlife had appealed the FWS’s decision not to list the flat-tailed horned lizard, which inhabits parts of the southwestern United States and northern Mexico, the Ninth Circuit established a flexible, case-by-case definition of “significant portion of its range.”<sup>59</sup> The court determined that “a

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<sup>59</sup> *Defenders of Wildlife v. Norton*, 258 F.3d 1136. The interpretation adopted by the court has been reaffirmed in the Ninth Circuit but not uniformly adopted by courts in other circuits. *See Nat’l Ass’n of Home Builders v. Norton*, 340 F.3d 835, 848–49 (9th Cir. 2003); *Defenders of Wildlife v. Sec’y, U.S. Dep’t of the Interior*, 354 F. Supp. 2d 1156, 1164 (D. Or. 2005); *Ctr. for Biological Diversity v. Lohn*, 296 F. Supp. 2d 1223, 1243 (W.D. Wash. 2003); *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 20 (D.D.C. 2002); *Sw. Ctr. for Biological Diversity v. Norton*, Civ. No. 98-934, 2002 WL 1733618, at \*14 (D.D.C. July 29, 2002). In December 2005, however, a federal magistrate in New Mexico indicated that the court would not adopt the Ninth Circuit’s reasoning. *See Ctr. for Biological Diversity v. Norton*, 2005 WL 3693830, at \*7

species can be extinct ‘throughout . . . a significant portion of its range’ if there are major geographical areas in which it is *no longer viable but once was*,<sup>60</sup> noting further that the geographical areas where the species is no longer viable “need not coincide with national or state political boundaries, although they can.”<sup>61</sup>

The implication is that, even if a species maintains a viable population in another country, the species may still be listed as endangered or threatened if a significant portion of its historical U.S. range is no longer inhabited. The Ninth Circuit lists species whose listings are consistent with its interpretation of “significant portion,” including grizzly bears, marbled murrelets, desert bighorn sheep, Stellar sea lions, crested caracaras, and piping plovers.<sup>62</sup> The Ninth Circuit’s decision leaves the Secretary of the Interior with a responsibility to “explain her conclusion that the area in which the species can no longer live is not a ‘significant portion of its range.’”<sup>63</sup> The decision also dictates that the Services not interpret the “significant portion of its range” clause to serve the same function as the category of “threatened species.”<sup>64</sup> In a discussion of the legislative history of the ESA, the court notes that Congress was aware of the “gradual process” of extinction and that it had therefore created the category of “threatened species” to hedge against that process.<sup>65</sup> The court wrote that “Congress’ desire to provide incremental protection to

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(D.N.M. Dec. 16, 2005). It is still not clear whether the flat-tailed horned lizard will be listed as endangered or threatened. *See* Notice of Reinstatement of the 1993 Proposed Rule to List the Flat-Tailed Horned Lizard as a Threatened Species, 70 Fed. Reg. 72,776 (Dec. 7, 2005).

<sup>60</sup> *Defenders of Wildlife v. Norton*, 258 F.3d at 1145 (emphasis added).

<sup>61</sup> *Id.*

<sup>62</sup> *See id.*

<sup>63</sup> *Id.* Specific factors that the Ninth Circuit expected the Secretary of the Interior to address on remand included determination of whether habitat on private land with limited protections for the lizard constituted a significant portion of the range and, if so, whether enhanced protections were required; determination of whether there were unique threats to the lizard in any location; and a site-specific analysis of the benefits of a conservation agreement between Arizona and California. *Id.* at 1146.

<sup>64</sup> *See id.* at 1142.

<sup>65</sup> *See id.* (quoting Senator Tunney’s statement that the ESA gives the Secretary of the Interior “the ability not only to protect the last remaining members of the species but to take steps to insure that species which are likely to be threatened with extinction never reach the state of being presently endangered,” 120 Cong. Rec. 25,668 (1973)).



species in varying degrees of danger does not, therefore, explain the ESA's protection for species facing extinction throughout only 'a significant portion of [their] range.'"<sup>66</sup>

The Ninth Circuit's construction of "endangered species" in *Defenders of Wildlife v. Norton* indicates that a species in danger of extinction throughout a significant portion of its range is not protected under the ESA merely as a precautionary measure to protect against becoming "more endangered." To the Ninth Circuit, the FWS's interpretation would have conflated the concepts of "endangered" and "threatened," which the court concluded could not have been Congress's intent.<sup>67</sup> Instead, the Ninth Circuit finds another principle at work—a belief that a species should continue to exist where it has historically existed.<sup>68</sup> That is, there are reasons why Congress set the threshold for listing a species at a point before the species' members persist in only a remnant of its former range. The court in *Defenders of Wildlife* did not delve too far into the reasons for choosing one threshold over another, but, in a footnote, the court gave an indication of its take on at least one of the driving philosophies for the ESA and its definition of "endangered species":

The text of the ESA and its subsequent application seems to have been guided by the following maxim:

"There seems to be a tacit assumption that if grizzlies survive in Canada and Alaska, that is good enough. It is not good enough for me. . . . Relegating grizzlies to Alaska is about like relegating happiness to heaven; one may never get there."<sup>69</sup>

This invocation of the naturalist Aldo Leopold provides a glimpse of what the court believes drives the listing of species that are in danger of disappearing from the U.S. while still maintaining viable populations elsewhere. The ESA aims not only to prevent worldwide extinction but also to preserve and stabilize populations in multiple areas.<sup>70</sup> The reference to Leopold also suggests that

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<sup>66</sup> *Id.* at 1143.

<sup>67</sup> *See id.* at 1142.

<sup>68</sup> *See id.* at 1145.

<sup>69</sup> *Id.* at 1145 n.10 (quoting ALDO LEOPOLD, *Wilderness, in A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* 188, 199 (1949)).

<sup>70</sup> A federal district court in Oregon applied this principle when it vacated a FWS Final Rule that downgraded the protection of gray wolves from endangered

there are some strands of a nature-centered philosophy woven into listing decisions.<sup>71</sup>

With respect to the flat-tailed horned lizard, the Ninth Circuit thought that since “it is on the record apparent that the area in which the lizard is expected to survive is much smaller than its historical range, the Secretary must at least explain her conclusion that the area in which the species can no longer live is not a ‘significant portion of its range.’”<sup>72</sup> Specifically, the FWS had to explain why the private lands where there were no conservation practices in place were not a significant portion of the species’ range. Although the scope of the word “significant” continues to allow the Services some discretion, the Services now must provide a much more thorough analysis of what the historical range of a species is and whether the portions in which the species can no longer survive are significant.<sup>73</sup>

D. *When a Species Is in Danger of Extinction in the United States—Case Study for “Naturally Rare” Species in the United States*

The classification of the Canada lynx—a species for which the majority of its range is in another country but patchy, less suitable habitat exists in the U.S.—is a prime example of how the ESA regulates species with populations in both the U.S. and another country. In 2002, a federal judge pounced upon an FWS decision refusing to list the Canada lynx that discounted the significance of naturally rare, dispersing populations in the U.S.

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to threatened in two DPSs. *See* Defenders of Wildlife v. Sec’y, U.S. Dep’t of the Interior, 354 F. Supp. 2d 1156 (D. Or. 2005). The district court determined that the FWS’s interpretation of significant portion was not in accord with the Ninth Circuit’s interpretation because it looked only to the wolf’s status in its current range, rendering other areas the wolf had once inhabited insignificant. *See id.* at 1167–68.

<sup>71</sup> *See infra* text accompanying notes 95–100, 114–15.

<sup>72</sup> Defenders of Wildlife v. Norton, 258 F.3d at 1145.

<sup>73</sup> “Significance” analyses are applied not only to species as a whole but also to subspecies or DPSs. DPS Policy, 61 Fed. Reg. 4722, 4725 (Feb. 7, 1996). Therefore, there are in fact two significance analyses for DPSs—one to establish whether there is a DPS in the first place, and another to determine whether the statutory threshold for endangerment is met. *Id.*; *see also* 90-day Finding for a Petition To List the Washington Population of the Western Gray Squirrel as Threatened or Endangered, 67 Fed. Reg. 65,931, 65,932 (Oct. 29, 2002) (to be codified at 7 C.F.R. pt. 17).

The district court insisted that the FWS decision was not in accord with the ESA.<sup>74</sup>

The Canada lynx is a species that thrives in the northern boreal forests of Canada and Alaska where snow is plentiful, but it also inhabits four geographically separate regions in the contiguous U.S.<sup>75</sup> In 2000, after a stream of petitions, findings, rulemaking, and litigation, the FWS listed the entire contiguous U.S. population of the lynx as a *threatened* DPS, finding that the population was (1) “discrete” because of differences in Canadian and U.S. management of lynx and lynx habitat and (2) “significant” because of “climatic, vegetational, and ecological differences” in overall habitat.<sup>76</sup> The FWS did not, however, categorize any of the four contiguous U.S. regions as independent DPSs because none of the four regions was found to independently qualify as a unique or unusual ecological setting.<sup>77</sup> Furthermore, the FWS found that in three of the four regions “the amount of lynx habitat is naturally limited” or “naturally marginal . . . and does not . . . contribute substantially to the persistence of the contiguous United States DPS.”<sup>78</sup> The Defenders of Wildlife challenged the FWS’s finding that the U.S. DPS was threatened rather than endangered.<sup>79</sup> They argued that the three regions where the lynx was “naturally rare” did in fact constitute a significant portion of the lynx’s range and that the apparent extirpation of the lynx from parts of these regions required that the DPS be listed as endangered.<sup>80</sup>

The *Defenders of Wildlife* Canada lynx case zeroed in on the FWS’s failure to adequately explain why it did not consider “three large geographical areas, which comprise three-quarters of the Lynx’s historical regions,” to be a significant portion of the Lynx’s historic range.<sup>81</sup> The Court here called the FWS conclusion

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<sup>74</sup> *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 19 (D.D.C. 2002) (quoting 16 U.S.C. § 1531(a)(2) (2000)).

<sup>75</sup> *Id.* at 14.

<sup>76</sup> Determination of Threatened Status for the Contiguous U.S. Distinct Population Segment of the Canada Lynx and Related Rule, 65 Fed. Reg. 16,052, 16,060 (Mar. 24, 2000).

<sup>77</sup> *Id.*

<sup>78</sup> *Id.* at 16,061.

<sup>79</sup> *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d at 11, 17.

<sup>80</sup> *Id.* at 18.

<sup>81</sup> *Id.* at 19.

“counterintuitive and contrary to the plain meaning of the ESA phrase.”<sup>82</sup> Invoking the “broad purpose” of the ESA, the Court said that the “FWS’s exclusive focus on one region where the Lynx is more prevalent, despite its historic presence in three additional regions, is contrary to the expansive protection intended by the ESA.”<sup>83</sup>

The FWS had based the decision not to consider those three regions significant on the Canada lynx being “naturally rare”<sup>84</sup> in those regions, but the court refused to accept this justification:

This argument that a species is not “significant” under the ESA because it is naturally rare, has no foundation in the statute, and is, again, contrary to the ESA’s broad purpose to protect wildlife that is “in danger of or threatened with extinction.” Indeed, FWS fails to cite any language in the text of the ESA or its legislative history to suggest that Congress did not intend to afford rare species all the protections of the ESA.<sup>85</sup>

In questioning the FWS’s interpretation, the court addresses whether the FWS can minimize the U.S. populations’ influence on listing decisions by not deeming the geographical areas in the U.S. to be a “significant portion” of the range. If a species’ population within the U.S. were required to be significant before the FWS would begin to determine whether it was “in danger of extinction,” then the listing of species with substantial populations outside the U.S. would be less likely. Determining the “significant portion of its range” first would create an additional threshold for listing. For instance, the Services could effectively isolate a species by focusing on one area in which a species was in fairly good condition and excising from consideration areas where it was in bad condition so that the excised areas would not be considered in the “significance” analysis.<sup>86</sup> If the ESA’s mission is to step in

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<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*; Determination of Threatened Status for the Contiguous U.S. Distinct Population Segment of the Canada Lynx and Related Rule, 65 Fed. Reg. 16,052, 16,059, 16,081–82 (Mar. 24, 2000).

<sup>85</sup> *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d at 19 (citing 16 U.S.C. § 1531(a)(2) (2000)). “Significance” of the species is not actually a requirement for listing as an “endangered species.” The requirement is that the species be “in danger of extinction throughout all or a *significant portion of its range*.” 16 U.S.C. § 1532(6) (emphasis added).

<sup>86</sup> *See Defenders of Wildlife v. Sec’y, U.S. Dep’t of the Interior*, 354 F.

when global extinction is imminent, then the addition of the threshold is appropriate. If the ESA's mission is broader, however, then it is more appropriate not to excise parts of a species' range from the analysis of whether the species should be listed based on the natural rarity of the species in those parts of the range.

In its reconsideration of the lynx listing, the FWS described its process for determining whether the lynx should be listed as endangered or threatened:

[T]he Service would need to find that the lynx is endangered in [the three areas] and that they were significant in order to list the entire DPS [i.e., the United States DPS]. Therefore, we first reviewed all of the threats to the lynx in these areas to determine whether it is in danger of extinction in each area. We identified two areas or parts of areas in which the lynx might be in danger of extinction. We then determined whether either of those areas (or parts of areas) constitutes a significant portion of the range of the lynx.<sup>87</sup>

The steps of the process described or implied in this excerpt are: (1) division of the species' range into subregions, (2) determination of whether the species is endangered in each area, and (3) determination of whether the areas in which the species is in danger of extinction are significant portions of the historical range. The first step, determination of the subregions, could have a large impact on the remainder of the analysis. If the Services have a significant amount of discretion to define the subregions, they can rationalize their ultimate decisions through a sort of gerrymandering process. At the same time, the Services have a great deal of discretion to designate DPSs and to determine the threshold for "significant"<sup>88</sup> in the definitions of "endangered" and "threatened" species. The Services have the tools therefore to focus on areas where species are thriving or recovering and to ignore those places where a species' status is perilous. This

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Supp. 2d 1156, 1166–69 (D. Or. 2005) (discussing "significance" as applied to wolf populations).

<sup>87</sup> Notice of Remanded Determination of Status for the Contiguous United States Distinct Population Segment of the Canada Lynx, 68 Fed. Reg. 40,076, 40,076 (July 3, 2003).

<sup>88</sup> See *id.* at 40,081 ("[The DPS policy] does not require that we designate a DPS in all cases where a vertebrate group meets the DPS criteria.").

analysis of significance could underprotect species if one of the ESA's goals is to preserve species throughout their historical range.

## II. THE ESA AND RATIONALES FOR PROTECTING DOMESTIC POPULATIONS WHEN A SPECIES HAS HEALTHY POPULATIONS IN OTHER COUNTRIES

The preceding discussion described the generally applicable standards for protection of discrete populations of a species and for protection of a species based on its status in part of its historical range. These standards are as applicable in an entirely domestic listing context as they are in a consideration of the listing of species that are in danger of extinction in the U.S. but have less imperiled populations outside the U.S. Also discussed were aspects of ESA implementation that suggest an intent to protect, at least to some degree, U.S. populations of species with relatively healthy foreign populations: (1) the Services' criteria for establishing the existence of a DPS, which allow international boundaries to count as a factor for discreteness,<sup>89</sup> and (2) the interpretation of "significant portion of its historic range."<sup>90</sup>

The preceding discussion also attempted to point out places where there has been pressure to interpret and implement the ESA not only to protect species from extinction but also to protect species from extirpation in any region they have historically inhabited.<sup>91</sup> Such protection would move ESA protection towards a goal of protecting ecological systems or biodiversity. At the same time, the preceding discussion highlighted aspects of ESA implementation such as the Services' policy for listing distinct population segments that reflect a more limited purpose of preventing extinction.<sup>92</sup> The tension between broader and narrower views of the ESA's mission has ramifications for the protection of U.S. populations of species with more commonly occurring foreign species. If a broader goal of protecting biodiversity is a background principle of ESA implementation,

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<sup>89</sup> See text accompanying *supra* note 39.

<sup>90</sup> See text accompanying *supra* notes 62–73.

<sup>91</sup> See *supra* notes 60–73 (Ninth Circuit interpretation of "significant portion of its range"), 74–86 (Canada lynx court decision).

<sup>92</sup> See COMM. ON SCIENTIFIC ISSUES IN THE ENDANGERED SPECIES ACT, *supra* note 33, at 64–65.

more domestic populations are likely to be protected. U.S. populations would be viewed as parts of ecological communities, and their impending disappearance from communities where they had existed in more plentiful numbers would signal the need for government intervention. The next section explores whether a biodiversity principle can be reconciled with the ESA framers' intent.

A. *Theories for Endangered Species Protection: Attempting to Reconcile the Human-Centered and the Nature-Centered*

Various theories have competed as justifications of the ESA. These theories can be broadly categorized as human-centered or nature-centered. The human-centered justifications include rationales based on material interests<sup>93</sup> and on aesthetic enjoyment.<sup>94</sup> The nature-centered justification, on the other hand, grows out of a conception of the ESA as a creator and protector of rights for nonhuman species.<sup>95</sup> Aldo Leopold is credited with articulating and popularizing the idea that humans have ethical duties to protect the other parts of their community—what he termed a land ethic.<sup>96</sup> He wrote that

[a]ll ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to co-operate

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<sup>93</sup> See Joe Mann, Note, *Making Sense of the Endangered Species Act: A Human-Centered Justification*, 7 N.Y.U. ENVTL. L.J. 246, 252–58 (1999) (describing preservation of genetic resources and maintenance of the health of ecosystems as rationales for the ESA that are “‘instrumental’ . . . to gain an actual or potential benefit”).

<sup>94</sup> See *id.* at 258–59 (describing aesthetic benefits as another type of instrumental rationale); see also Holly Doremus, *The Rhetoric and Reality of Nature Protection: Toward a New Discourse*, 57 WASH. & LEE L. REV. 11, 24–32 (2000) (discussing nature as aesthetic resource).

<sup>95</sup> See Mann, *supra* note 93, at 246–47; see also RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE* 175–76 (1989).

<sup>96</sup> ALDO LEOPOLD, *The Land Ethic*, in *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE*, *supra* note 69, at 201–03; see also JAMES GUSTAVE SPETH, *RED SKY AT MORNING: AMERICA AND THE CRISIS OF THE GLOBAL ENVIRONMENT* 24–25 (2004) (describing Leopold's influence); Doremus, *supra* note 94, at 34 (“Leopold argued for extension of the ethical community to encompass all of nature. He stated his land ethic simply: ‘A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.’” (quoting LEOPOLD, *supra*, at 224–25)).

(perhaps in order that there may be a place to compete for).

The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.<sup>97</sup>

Although this nature-centered perspective has worked itself into the rhetoric that surrounds the ESA,<sup>98</sup> it does not adequately describe a rationale for the actual ESA regulatory regime because it cannot fully explain the type and extent of the ESA's protections. For instance, as one author has pointed out, the allowance for incidental takes of individual members of a species contravenes the idea that the ESA protects a species' rights as a member of a biotic community.<sup>99</sup> This ESA provision allows humans to harm or kill individual members of a protected species in the course of otherwise lawful activity such as development of a plot of land when alternatives are limited. Although applicants for incidental take permits must devise conservation plans to show that they "will, to the maximum extent practicable, minimize and mitigate the impacts"<sup>100</sup> of their taking by and that they "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild,"<sup>101</sup> these requirements protect the species as a resource—not as a group of individuals, each imbued with rights. In descriptive assessments of the rationales for the ESA, therefore, human interests have come to the forefront as its primary impetus, beating out the committed minority view that the ESA is geared towards the protection of plants and animals for their own sakes.

One human-centered justification is material and utilitarian, that the benefits to humans of protecting species will exceed the costs. First, there may be some reason to believe that direct economic benefits will be realized or direct economic costs

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<sup>97</sup> LEOPOLD, *supra* note 96, at 203–04.

<sup>98</sup> See Doremus, *supra* note 94, at 39 ("The legislative history of the Act is replete with ethical references, although most are veiled.")

<sup>99</sup> See Mann, *supra* note 93, at 268–69 ("The major problem with the nature-centered view is that it does not explain why the ESA protects only entire species when the individuals within those species receive no protection whatsoever."); see also 16 U.S.C. § 1539(a) (2000) (describing criteria for granting an incidental take permit).

<sup>100</sup> 16 U.S.C. § 1539(a)(2)(B)(ii).

<sup>101</sup> *Id.* § 1539(a)(2)(B)(iv).



avoided due to the preservation of species. These benefits could include use of species' genetic material for research<sup>102</sup> or tourist income derived from the presence of certain species in a locality. Such scientific, recreational, and aesthetic benefits exemplify the use value of endangered species. Activities that harm species that are used or could be used for these purposes impose costs on those who would otherwise benefit from the use of the species. At its extreme, the discourse in which the material and utilitarian rationale is embedded has been called an "ecological horror story," in which human survival is at stake if the balance of nature is disrupted.<sup>103</sup> This rationale for protecting the environment and endangered species has its roots in George Perkins Marsh, Rachel Carson, and Paul and Anne Ehrlich, and has been echoed in politicians' urgings for protections of endangered species.<sup>104</sup>

The Supreme Court's first major ESA case in 1978 reinforced the idea that fundamental, material human interests were ultimately at stake under the ESA. The case dealt with whether the Tellico dam project, on which millions of dollars had already been spent, could go forward despite the dire consequences the project would have for an endangered species—the snail darter, a three-inch fish with designated critical habitat in the project's vicinity. The Supreme Court determined from legislative history and preceding legislation that "[t]he plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost. This is reflected not only in the stated policies of the Act, but in literally every section of the statute."<sup>105</sup> Finding this intent for absolute protection of any listed species does not indicate, however, that the Supreme Court believed that nonhuman benefits motivated the ESA's enactment. Rather, the Court inferred from legislative history that "Congress was concerned about the *unknown* uses that endangered species

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<sup>102</sup> See, e.g., *Endangered Species Conservation Act of 1972: Hearings on S. 249, S. 3199, and S. 3199 Before the Subcomm. on the Env't of the S. Comm. on Commerce*, 92d Cong. 65 (1972) (statement of Sen. Mark O. Hatfield) ("Each species is a perishable resource of unpredictable value. Fifty years ago, few would have seen the value of the fruit fly for research in genetics or the value of primates to advance the biometrical and pharmaceutical sciences."); see also E.O. WILSON, *BIOPHILIA* 135 (1984).

<sup>103</sup> See Doremus, *supra* note 94, at 19–23.

<sup>104</sup> See *id.*

<sup>105</sup> *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978).

might have and about the *unforeseeable* place such creatures may have in the chain of life on this planet.”<sup>106</sup> The consequences for humans have, from the beginning, been the impetus for protection of species, even though the consequences cannot easily be measured in dollars and cents and despite consequences that seem at odds with more calculable, present-day human interests.

To some extent, the material rationale may explain the ESA’s protection of species within the U.S. when there are relatively healthy populations in other countries. There may be a purely economic use value to having species within U.S. borders since wildlife aficionados will spend their vacation dollars in the hopes of catching a glimpse of the piping plover or the Mexican long-nosed bat (for which the only known U.S. habitat is a cave in Big Bend National Park) instead of in other countries. And regulating to ensure a species’ survival within the U.S. may be a way to hedge against the occurrence of an “ecological horror story” in the U.S. in which the loss of species results in the disintegration of natural systems on which human beings depend.<sup>107</sup>

These rationales for protecting domestic populations are not completely satisfying. Just as the ethical, nature-centric justification for the ESA fails to provide a convincing explanation for ESA provisions that allow for the taking of individual members of a species, so may a utilitarian justification based on material benefits fail to provide a satisfying explanation of what benefits are garnered from protecting species from extinction. It is possible, however, that there may be a rationale for the ESA that satisfies the urge in natural resources policy for a utilitarian explanation while also attempting to translate ethical, Leopoldian impulses that are evident in the ESA’s legislative history into measurable benefits and actionable justifications for protection.

Professor David Dana has elaborated one such utilitarian rationale for natural resource preservation based on a more expansive conception of environmental externalities, one that takes into account existence or “amorphous option” values.<sup>108</sup> Professor

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<sup>106</sup> *Id.* at 178–79 (emphasis in original).

<sup>107</sup> See Doremus, *supra* note 94, at 21–23.

<sup>108</sup> See David A. Dana, *Existence Value and Federal Preservation Regulation*, 28 HARV. ENVTL. L. REV. 343, 345, 351 (2004); see also Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1215–19

Dana argues that

[e]xistence values (or more precisely, the desire to prevent the loss of existence values) provide a powerful positive account of how the federal political process, despite concerted opposition by well-organized business interests, has at times come to restrict the degradation of natural spaces that few out-of-state residents are likely ever to visit or otherwise use. Existence values also provide a strong normative account of why such restrictions are, from a societal vantage, presumptively welfare-maximizing.<sup>109</sup>

Dana's position is that "Americans lose some sense of well-being simply by virtue of the loss of . . . natural resources in states where they do not live"<sup>110</sup> and that such psychic externalities warrant consideration in federal regulation of endangered species.<sup>111</sup> That loss of well-being is a diminishing of existence value, and a reduction in social welfare. The related, overlapping concept of "amorphous option" describes the current value of an "entitlement to do or use something in the future" but for which the option is "open-ended as to time, the kind or value of future use, and the probability of future use."<sup>112</sup> The concepts of existence or amorphous option values provide a framework in which to understand the benefits to be derived from the ESA. One advantage of the concepts is that they can measure many types of benefits that we might normally consider intangible. For instance, a human-centered utilitarian rationale based in part on existence values can incorporate aspects of a species-centric point of view because the value that humans place on species may be derived in part from the moral obligation they feel towards other species.<sup>113</sup>

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(1977) (describing concept of "psychic spillovers" as moral counterpart to physical externalities).

<sup>109</sup> Dana, *supra* note 108, at 345.

<sup>110</sup> *Id.*

<sup>111</sup> Although Professor Dana primarily frames his utilitarian justification as a justification for federal, as opposed to state or local, regulatory action to preserve natural resources, much of his defense of the utilitarian rationale is also applicable as a justification for preservation of endangered species in general since it defends existence values as a legitimate component of welfare. *See id.* at 356-57.

<sup>112</sup> *Id.* at 351.

<sup>113</sup> Dana writes that:

As an empirical matter, it is far from certain that one could ever accurately isolate the percentage of existence value valuations that is

From the perspective that focuses on species' innate rights, protecting domestic species seems to move in the direction of valuing individual members of a species rather than focusing on the species level. Another set of rationales that distinguishes the decisions to list species based on an imperiled domestic population from other listing decisions resonates with Aldo Leopold's *Sand County Almanac*: "Relegating grizzlies to Alaska is about like relegating happiness to heaven; one may never get there."<sup>114</sup> These rationales are based on a human desire for a sense of connectedness with nature or with the past. These justifications may seem sentimental, unscientific, and incongruent with rational utilitarianism associated with environmental and natural resource policy, but the influence of this set of motivations would not be surprising since the ESA included aesthetic, recreational, and historical values as a basis for species protection, however hortatory the recitation of this set of values might seem.<sup>115</sup> In addition, there is a certain nationalistic pride in having certain species within U.S. borders that resonate with American culture and history. This pride could enhance the existence values of species within the U.S. One could even argue that species such as the bald eagle that inspire nostalgia and patriotism provided the hook that created the popular will for more widespread protection of endangered species and their habitat. Beyond these types of existence values, however, there is also a justification that is both material and ethical (in the land ethic sense), and that is an argument that protecting species in the U.S. is the right thing to do because it maintains a healthy biotic community. This argument returns to the conundrum mentioned earlier, that the provisions of the ESA do not do enough to preserve biological diversity by preventing species from becoming endangered or threatened in the first place.<sup>116</sup> Protecting species whose U.S. populations are

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attributable to moral and spiritual values, as distinct from other psychological phenomena or concerns. . . . [M]y supposition is that moral and spiritual values and levels of psychic satisfaction are often linked, at least in the context of those who value preservation of natural resources.

*Id.* at 349 n.16.

<sup>114</sup> LEOPOLD, *supra* note 69, at 199; *see also supra* notes 97–98 and accompanying text.

<sup>115</sup> *See* 16 U.S.C. § 1531(a)(3) (2000).

<sup>116</sup> *See* text accompanying *supra* note 52.

imperiled even when the species maintains stable populations outside the U.S. partly resolves this conundrum by protecting species, and thus protecting the habitats around them, before populations shrink to the point where species' continuing existence is threatened and they exist only as museum pieces or artifacts rather than as members of a "community of interdependent parts."<sup>117</sup>

### B. *Potential Drawbacks of Protecting Domestic Populations*

How protection of domestic populations alters the effectiveness of the ESA as a whole may detract from the benefits gained from their protection. There are several ways in which listing species with imperiled domestic populations but with healthy populations outside the U.S. may increase the costs of implementing the ESA. First, the additional factors that must be considered to list a distinct population segment as opposed to an entire species inevitably add additional costs to the listing process.<sup>118</sup> As discussed in Part I, statutory terms like "distinct population segments" and "significant portion" call for subjective judgments and allow the agencies a great deal of discretion to make decisions.<sup>119</sup> The analysis of whether a species is in danger of extinction throughout a "significant portion" of its range could become more difficult when a species has populations in both the U.S. and other countries because of the increased uncertainty regarding regulatory and other regimes designed to protect species. In order to ensure a reasoned decision that could not later be found to be arbitrary and capricious, it therefore seems likely that the Services will have to use more resources to make listing determinations such as the ones discussed in this Note.

The existence of these areas of discretion may also result in increased numbers of petitions for listing and citizen suits to force listing.<sup>120</sup> The possibility of arguing for the listing of a distinct population segment or of arguing that a species is endangered

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<sup>117</sup> LEOPOLD, *supra* note 96, at 203.

<sup>118</sup> See Jim Rossi, *Participation Run Amok: The Costs of Mass Participation for Deliberative Agency Decisionmaking*, 92 NW. U. L. REV. 173, 224–88 (1997) (discussing costs and problems that occur due to increases in amount of information considered by agency).

<sup>119</sup> See *supra* notes 53–73 and accompanying text.

<sup>120</sup> See 16 U.S.C. § 1533(b)(3)(A), (b)(3)(C)(ii) (2000).

throughout a significant portion of its range expands the scope of listing possibilities. This expansion of possibilities also means the expansion of litigation opportunities for environmental organizations looking for ways either to protect a certain species itself or to find a hook for restricting the development of a certain area. There are additional areas where the Services will have discretion to make choices that will provoke litigation from one interested party or another—either the landowner whose use of her land is restricted because of the existence of DPSs or the animal lover who does not want her environment to lose one of its constituents.

Increased costs per listing decision do not come at a good time in the ESA's history. Indeed, during the past decade the budget for the ESA listing and critical habitat designation has been limited, or at times even eradicated, by a Congress concerned about the ESA's impact on private property owners.<sup>121</sup> Recently Congress has debated revising the ESA.<sup>122</sup>

Due to these limitations on financial resources, it is worth considering what the priorities of the ESA should be. Does protection of species with limited domestic populations come at the expense of species whose populations are solely in the U.S.? The U.S.'s lack of control over endangered species regulation in other countries is one reason to give protection of domestic populations of such species a priority. Furthermore, under a Leopoldian land ethic view, any action that protects members of the "biotic community" will contribute to the health of the overall environment. In that light, the protection of one species or population instead of another will always entail opportunity costs, but without omniscience that would allow one to see what impacts protecting one species versus another would have on the local,

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<sup>121</sup> See generally Jason M. Patlis, *Riders on the Storm, or Navigating the Crosswinds of Appropriations and Administration of the Endangered Species Act: A Play in Five Acts*, 16 TUL. ENVTL. L.J. 257, 287–91 (2003) (discussing barriers to ESA implementation posed by, among other things, congressional actions to restrict funding).

<sup>122</sup> The House of Representatives passed a new ESA bill last year. Threatened and Endangered Species Recovery Act of 2005, H.R. 3824, 109th Cong. (2005). This bill has been referred to the Senate, where it is currently being considered by the Environment and Public Works Committee. See Allison A. Freeman, *Senate Staff Has Nose to the Grindstone on ESA Bill*, ENV'T & ENERGY DAILY, Mar. 8, 2006.

regional, and global environments (an analysis that would go beyond the scope of what the ESA is designed to consider), it would not be possible to determine whether there were more costs associated with protections of the species that still has populations outside the U.S.

#### CONCLUSION

The ESA is designed to permit the protection of species with imperiled domestic populations but with relatively healthy populations outside the U.S. The statute allows for the listing of “distinct population segments” of species within the U.S., and its definition of “endangered species” also makes possible the listing of an entire species based on the danger of extinction in the U.S. when the U.S. range is a significant portion of the species’ range.

The interpretation of the “endangered species” definition articulated in the Ninth Circuit’s 2001 decision in *Defenders of Wildlife v. Norton* would increase the likelihood that domestic populations of species will be protected when there is the possibility that a species will be eradicated entirely from the U.S. Beyond the benefits of preserving material or aesthetic resources within the U.S., there is an additional argument for looking to and advancing this interpretation. Doing so would prompt the implementers of the ESA to consider a species’ historical range and would help to prevent species from consignment to isolated pockets of land.

The rationales for the ESA have been broadly construed as either human-centered or nature-centered, material or ethical, and many people believe that in practice the ESA adheres to an outlook that is primarily human-centered. Nevertheless, the protection of distinct population segments in the U.S. or the evaluation of species based on their historical distribution may reflect the nature-centered rationale of Leopold’s land ethic. An expansive interpretation of the ESA recognizes the interconnections between the human-centered and nature-centered rationales. Protecting species that are at risk in the U.S. despite more stable populations elsewhere is a step towards reconciling the ESA with a broader purpose of conserving biodiversity.

TABLE 1  
COUNTRIES IN WHICH ENDANGERED AND THREATENED SPECIES  
WITH HISTORICAL RANGE IN THE U.S. ALSO HAVE HISTORICAL  
RANGE

Country or Countries Other Than U.S. in Which Species Has Historical Range	Number of Species with Historical Range in That Country or Countries
British Virgin Islands	2
Canada	16
Canada, Greenland, Western Europe	1
Canada, Mexico	4
Canada, Mexico, Bahamas, West Indies	1
Canada, Northeast Asia (Japan to Russia)	1
Caribbean Sea, South America	1
Cuba	3
Dominican Republic, Haiti	1
East Africa to South Japan	1
Greater and Lesser Antilles, Bahamas, Mexico; winters Central America, northern South America	1
Mexico	38
Mexico, Caribbean, Central and South America	1
Mexico, Central America	2
Mexico, Central and South America	3
Mexico, Guatemala	1
North Pacific	4
Russia	1
Russia, winters in Scandinavia	1
South to Panama; Cuba	1
To Central and South America	1
West Indies, Bahama Islands, Canada	1



TABLE 2  
ENDANGERED AND THREATENED SPECIES WITH HISTORICAL RANGE  
IN BOTH THE U.S. AND OTHER COUNTRIES

Countries/Regions Other Than U.S. in Which Species Has Historical Range	Species	Where Listed
British Virgin Islands	Puerto Rican crested toad	Entire range
	Virgin Islands tree boa	Entire range
Canada	American burying beetle	Entire range
	Black-footed ferret	Entire range
	Bull trout	U.S.—lower 48 states
	Canada lynx	Entire
	Dwarf wedgemussel	Entire range
	Hungerford's crawling water beetle	Entire range
	Karner blue butterfly	Entire range
	Lake Erie water snake	Parts of U.S. and Canada
	Marbled murrelet	U.S.
	Northern riffleshell	Entire range
	Northern spotted owl	Entire range
	Northern swift fox	Canada
	Shortnose sturgeon	Entire range
	White sturgeon	Parts of U.S. and Canada
	Whooping crane	Entire range
Woodland caribou	Parts of U.S. and Canada	
Canada, Greenland, Western Europe	Atlantic salmon	U.S.
Canada, Mexico	Bald eagle	U.S.—lower 48 states
	Bighorn sheep	U.S.
Canada, Mexico, Bahamas, West Indies	Piping plover	Threatened—entire range, except where endangered Endangered—Great Lakes watershed (U.S., Canada)
Canada, Northeast Asia (Japan to Russia)	Chinook salmon	U.S.

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## DOMESTIC SPECIES WITH FOREIGN POPULATIONS

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<b>Countries/Regions Other Than U.S. in Which Species Has Historical Range</b>	<b>Species</b>	<b>Where Listed</b>
Caribbean Sea, South America	West Indian manatee	Entire range
Cuba	Bachman's warbler	Entire range
	Everglade snail kite	U.S.
	Ivory-billed woodpecker	Entire range
Dominican Republic, Haiti	White-necked crow	Entire range
East Africa to South Japan	Dugong	Entire range, except Palau
Greater and Lesser Antilles, Bahamas, Mexico; winters Central America, northern South America	Least tern	U.S.
Mexico	Arroyo toad	Entire range
	Beautiful shiner	Entire range
	Black-capped vireo	Entire range
	Cactus ferruginous pygmy-owl	U.S.
	California condor	U.S.
	California least tern	Entire range
	California red-legged frog	Entire range, with some exceptions
	Chihuahua chub	Entire range
	Chiricahua leopard frog	Entire range
	Coastal California gnatcatcher	Entire range
	Desert bobwhite	Entire range
	Desert tortoise	U.S.: Mojave population
	Devils River minnow	Entire range
	Gila topminnow	U.S.
	Guadalupe fur seal	Entire range
	Gulf Coast jaguarundi	Entire range
	Least Bell's vireo	Entire range
	Light-footed clapper rail	U.S.
	Loach minnow	Entire range
	Masked (quail) bobwhite	Entire range
Mexican spotted owl	Entire range	

<b>Countries/Regions Other Than U.S. in Which Species Has Historical Range</b>	<b>Species</b>	<b>Where Listed</b>
	New Mexican ridge-nosed rattlesnake	Entire range
	Pike minnow	Entire range except for two places in Arizona
	Quino checkerspot butterfly	Entire range
	Razorback sucker	Entire range
	Rio Grande silvery minnow	Entire range
	Sinaloan jaguarundi	Entire range
	Sonora chub	Entire range
	Sonora tiger salamander	Entire range
	Sonoran pronghorn	Entire range
	Southern sea otter	Entire range
	Southwestern willow flycatcher	Entire range
	Spikedace	Entire range
	Thick-billed parrot	Mexico
	Western snowy plover	Parts of U.S. and Mexico
	Yaqui catfish	Entire range
	Yaqui chub	Entire range
	Yuma clapper rail	U.S.
Mexico, Caribbean, Central and South America	American crocodile	Entire range
Mexico, Central America	Lesser long-nosed bat	Entire range
	Mexican long-nosed bat	Entire range
Mexico, Central and South America	Jaguar	Entire range
	Margay	Mexico southward
	Wood stork	U.S.
Mexico, Guatemala	Northern aplomado falcon	Entire range
North Pacific	Coho salmon	U.S.
	Short-tailed albatross	Entire range
	Sockeye salmon	U.S.

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*DOMESTIC SPECIES WITH FOREIGN POPULATIONS*

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<b>Countries/Regions Other Than U.S. in Which Species Has Historical Range</b>	<b>Species</b>	<b>Where Listed</b>
	Steller sea lion	Entire range
Russia	Spectacled eider	Entire range
Russia, winters in Scandinavia	Steller's eider	U.S. (breeding population in Alaska)
South to Panama; Cuba	Audubon's crested caracara	U.S.
Central and South America	Ocelot	Entire range
West Indies, Bahama Islands, Canada	Kirtland's warbler	Entire range