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"This Land Was Made for You and Me"*—And Them: Why and How the Department of the Interior Should Give Greater Consideration to the Gray Wolf's Historical Range

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Throughout the late nineteenth and early twentieth centuries, the gray wolf was systematically eradicated from most of the lower forty-eight states. A population of hundreds of thousands was whittled down to a few hundred, concentrated only in the woods of Minnesota and Isle Royale, Michigan. The wolf has rebounded, thanks to robust federal protection. But full recovery remains elusive—in part because of the federal government's narrow expectations for recovery.

In August 2017, the D.C. Circuit struck down a 2011 rule that removed the gray wolf from the endangered species list in the Western Great Lakes area. The court held that the U.S. Fish and Wildlife Service had impermissibly failed to consider how the loss of the gray wolf's historical range affected the species' overall survival outlook. This decision highlighted some long-recognized shortcomings of the Service's interpretation of recovery under the Endangered Species Act, including its concentration on core populations to the detriment of peripheral ones. Focusing on the complex history of the gray wolf, this Note explores traditional justifications for species preservation, as well as justifications for a broader geographic recovery of a species. In doing so, it identifies a repertoire of principles that should inform future decisions about a species' geographic restoration, and by reflecting on these principles, it argues for a more purposeful consideration of a species' historical range.

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* WOODY GUTHRIE, THIS LAND IS YOUR LAND, THE ASCH RECORDINGS VOL. 1 (Smithsonian Folkways Recordings 1997).

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INTRODUCTION

> *We console ourselves with the comfortable fallacy that a single museum-piece will do, ignoring the clear dictum of history that a species must be saved in many places if it is to be saved at all.*[1]

In 2011, a lone wolf took a jagged and meandering route, eventually crossing from southern Oregon into California and becoming the first known gray wolf in the Golden State since 1924.[2] The wolf, known by wildlife biologists and avid observers as OR-7,[3] sent waves of unease and excitement across the region. While rural ranchers and farmers raised concerns about the wolf's threat to their livestock, wildlife enthusiasts celebrated its arrival as a success of decades of species protection and natural dispersal.[4] But OR-7's lengthy and closely watched journey also highlighted an emerging challenge for wolf management in this country.

Now, after forty-five years of the Endangered Species Act (ESA or "the Act"), we find ourselves at an interesting juncture with the gray wolf. The species no longer appears to be on the brink of extinction, but it also remains absent from approximately 85 percent of its historical range within the conterminous United States.[5] Recent regulations by the U.S. Department of the Interior (DOI), spurred by dual political motivations to delist a controversial species and to declare a resounding ESA victory, reflect this conundrum and demonstrate the shifting baseline of wolf recovery. As is often the case, a court has provided some clarity while raising more questions. In *Humane Society of the United States v. Zinke*, the D.C. Circuit deferred to the U.S. Fish and Wildlife Service's (FWS or "the Service") interpretation of "range" as "current range" within the context of the ESA.[6] At the same time, the court found the agency's decision to delist the gray wolf in the Western Great Lakes to be arbitrary and capricious, in part because FWS failed to consider the loss of the wolf's historical range.[7]

A species, especially an endangered one, cannot be detached from discussions about its range, as habitat modification and destruction are "the main

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1. ALDO LEOPOLD, A SAND COUNTY ALMANAC WITH ESSAYS ON CONSERVATION FROM ROUND RIVER 194 (1966) (emphasis in original).

2. *OR-7 – A Lone Wolf's Story*, CAL. DEP'T OF FISH & WILDLIFE, https://www.wildlife.ca.gov/Conservation/Mammals/Gray-Wolf/OR7-Story (last visited May 15, 2018); Jack Martinez, *Gray Wolf Returns to California for the First Time Since 1924*, NEWSWEEK (Aug. 21, 2015), http://www.newsweek.com/california-gray-wolf-365007.

3. *OR-7 – A Lone Wolf's Story*, *supra* note 2.

4. Martinez, *supra* note 2.

5. *See* Jeremy T. Bruskotter et al., *Removing Protections for Wolves and the Future of the U.S. Endangered Species Act (1973)*, 7 CONSERVATION LETTERS 401, 402 (2014).

6. Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585, 605 (D.C. Cir. 2017).

7. *Id.* at 605–07.

means by which man has driven . . . species from existence."[8] But what does sufficient consideration of historical range look like? How does our understanding of a species' historical range shape our conservation and restoration goals? The D.C. Circuit may have brought these questions to the forefront of ESA policy, but they have been bubbling beneath the Act's surface for many years. At such a point, it is important to develop coherent principles to guide our decisions and to understand why we not only save the mere existence of a species, but also why we should consider recovering it across a broader landscape.

The gray wolf serves as a great species for a case study in this subject. It has a long and storied history with the ESA, including recent attempts by FWS and Congress to delist it. It was once the master of a vast historical range, covering most of the lower forty-eight states, but now only exists in a small portion of that range.[9] Still, there are robust core populations of wolves that are thriving, and the species seems to have retreated from the brink of extinction. In fact, the wolf appears to be highly adaptive, and there are indications that it could still exist comfortably in most of its historical range if it was allowed to get there and was not subsequently obliterated by humans.[10] Moreover, the wolf possesses a unique aura and behavior—a sort of wildness that has infiltrated mythology and popular culture for centuries.[11] It can wander long distances, in directions and through paths not easily understood, as made clear by OR-7's journey.[12] Finally, wolves are ecosystem engineers with "well-documented ecological importance,"[13] and thus where they live matters quite a bit to several other plant and animal species. In sum, the wolf provides an interesting contrast between mere viability and the opportunity for widespread restoration, while

8. John Charles Kunich, *The Fallacy of Deathbed Conservation Under the Endangered Species Act*, 24 ENVTL. L. 501, 503 (1994); *see also* Oliver A. Houck, *The Endangered Species Act and Its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277, 296 (1993).

9. This Note focuses on wolf recovery across the lower forty-eight states. While wolves historically and currently represent an important piece of the ecological landscape in Alaska, the species is not threatened there, and FWS estimates that approximately 65,000 wolves inhabit all of Canada and Alaska. *See Gray Wolves in the Northern Rocky Mountains*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/mountain-prairie/es/grayWolf.php/ (last modified June 27, 2017).

10. *See* MARTIN A. NIE, BEYOND WOLVES: THE POLITICS OF WOLF RECOVERY AND MANAGEMENT 6 (2003) ("While wolves will need wilderness in the future, if necessary, these habitat generalists can survive with less. If there is any consensus within the wolf policy community, it is that the greatest determinant of wolf success or failure—past, present, and future—is how humans choose to live, or not live, with them.").

11. *See* Anna Remet, *The Return of the Noble Predator: Making the Case for Wolf Reintroduction in New York State*, 9 ALB. L. ENVTL. OUTLOOK J. 89, 93–96 (2004).

12. *See OR-7 – A Lone Wolf's Story*, *supra* note 2.

13. Carlos Carroll et al., *Geography and Recovery Under the U.S. Endangered Species Act*, 24 CONSERVATION BIOLOGY 395, 401 (2010).

simultaneously stirring deep opinions—both positive and negative—about its presence.[14]

Using the D.C. Circuit's directive from *Humane Society* as a starting block, this Note provides some suggestions for how a greater understanding of the gray wolf's historical range can guide management decisions of the species. Part I begins by exploring the mandates and relevant provisions of the ESA and how interpretations of its terms have changed over time. Part II proceeds to trace the story of the wolf, from its period of abundance through its decline and partial resurgence, briefly discussing the recent attempts to delist it. Part III examines traditional principles and justifications for species preservation, and then compares and contrasts these with principles that underlie decisions about historical range recovery. Finally, Part IV explores what a proper consideration of the wolf's historical range could look like, drawing on the principles from the preceding section and examining the implications for both core and peripheral populations of wolves.

This Note does not argue that FWS should work to restore each and every species to its entire historical range. Such an argument is impracticable, both politically and functionally. Instead, by focusing on the unique characteristics of the gray wolf, this Note seeks to build a repertoire of coherent principles that can inform and define decisions on a species' geographic restoration.

I. THE ENDANGERED SPECIES ACT

> *Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed. It is a many-faceted treasure, of value to scholars, scientists, and nature lovers alike, and it forms a vital part of the heritage we all share as Americans.*[15]

This Part provides background on the Endangered Species Act, including its broad purposes and relevant terminology and the federal government's shifting interpretations of key portions.

A. The ESA's Purposes and Mandates

Passed in 1973 by a nearly unanimous Congress,[16] the ESA has been called "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation."[17] Its focus on preventing species extinction amounts

14. For a quantitative overview of dozens of surveys on attitudes towards wolves, see Christopher K. Williams et al., *A Quantitative Summary of Attitudes Towards Wolves and Their Reintroduction (1972–2000)*, 30 WILDLIFE SOC'Y BULL. 575, 578–83 (2002).

15. Presidential Statement on Signing the Endangered Species Act of 1973, 10 WEEKLY COMP. PRES. DOC. 2 (Dec. 28, 1973).

16. *See* COMM. ON ENV'T & PUB. WORKS, 97TH CONG., A LEGISLATIVE HISTORY OF THE ENDANGERED SPECIES ACT OF 1973, AS AMENDED IN 1976, 1977, 1978, 1979, AND 1980, at 205, 409 (1982).

17. Tenn. Valley Auth. v. Hill, 437 U.S. 153, 180 (1978).

to "the most literally global, inclusive attempt to employ the species-level equivalent of extraordinary life-saving measures."[18] Once FWS lists a species, the Act confers extensive federal protections, both by prohibiting takes and requiring consultations. At the same time, the Act has earned the label of "America's most controversial environmental law,"[19] drawing critiques both from those who believe it goes too far and those who believe it does not go far enough.[20] Relevant to this Note, the ESA also says very little about what recovery should look like, leaving federal agencies with a fair amount of leeway in interpreting the Act's requirements.

But the ESA does direct a focus on habitat. The purposes of the ESA are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved" and "to provide a program for the conservation of such endangered and threatened species."[21] Under the Act, "conserve" means "to use . . . all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no longer necessary."[22] In practice, Section 7 of the Act requires federal agencies to consult with the Secretary of the Department of the Interior ("Secretary") whenever planned agency action might "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat" that has been identified as critical.[23] Section 9 prohibits the taking of any listed species,[24] where "take" is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[25]

In addition to its prohibitions on certain actions, the ESA also contains provisions more acutely focused on recovering a species.[26] Section 4(f) directs that the Secretary "shall develop and implement [recovery] plans . . . for the conservation and survival of endangered species and threatened species."[27]

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18. Kunich, *supra* note 8, at 504.

19. Houck, *supra* note 8, at 278.

20. *See* J.B. Ruhl, *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Nonfederal Lands: Time for Something Completely Different?*, 66 U. COLO. L. REV. 555, 579 (1995) (noting that the ESA "has been maligned by biodiversity conservation proponents and opponents alike, either as not doing enough or as running ramshackle over private property rights," but that the Act "is probably faring about as best as can be expected given its broad goals and limited powers").

21. 16 U.S.C. § 1531(b) (2012).

22. *Id.* § 1532(3).

23. *Id.* § 1536(a)(2).

24. *Id.* § 1538(a)(1)(B).

25. *Id.* § 1532(19).

26. While the ESA itself does not define "recovery," a fact that has caused consternation amongst wildlife advocates, FWS and the National Marine Fisheries Service promulgated a regulation in 1986 defining "recovery" as "improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act." Federico Cheever, *Recovery Planning, the Courts and the Endangered Species Act*, NAT. RESOURCES & ENV'T, Fall 2001, at 106, 107–08 (quoting 50 C.F.R. § 402.02 (2017)).

27. 16 U.S.C. § 1533(f)(1). Recovery plans must include "a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of

These "recovery plans" are important tools for FWS to counter a species' decline into extinction, though courts have held that they are not legally enforceable.[28] In carrying out species protection programs, FWS is also directed to cooperate with states to form management agreements and cooperative agreements once the Secretary determines that the state has "establishe[d] and maintaine[d] an adequate and active program" for the conservation of endangered species that is "consistent with the purposes and policies of [the ESA]."[29] Finally, Section 10(j) authorizes the Secretary to release "experimental populations" of an endangered or threatened species in areas outside its current range if "the Secretary determines that such release will further the conservation of such species."[30] Reintroduction programs, such as the release of wolves in Idaho and Yellowstone National Park, arose out of this authority.

For a species to receive protections under the Act, however, DOI must first classify it either as endangered or threatened. In making this determination, FWS considers five factors, and, notably, the very first addresses "the present or threatened destruction, modification, or curtailment of [the species'] habitat or range."[31] The other factors include "overutilization for commercial, recreational, scientific, or educational purposes;" "disease or predation;" "the inadequacy of existing regulatory mechanisms;" and "other natural or manmade factors affecting its continued existence."[32] Each determination must be based solely on "the best scientific and commercial data available."[33] The ESA directs the Secretary to "from time to time revise each list," and at least every five years, the Secretary must review all species to determine whether any should "(i) be removed from such list; (ii) be changed in status from an endangered species to a threatened species; or (iii) be changed in status from a threatened species to an endangered species."[34] These determinations rely on the same factors as the initial listing.[35]

The original text of the ESA instructed DOI to apply the ESA's analysis only to species and subspecies, but amendments to the Act in 1978 expanded the definition of "species" to include "any distinct population segment of any species

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the species," and "objective, measurable criteria which, when met, would result in a determination . . . that the species be removed from the list." *Id.* at § 1533(f)(1)(B).

28. For an overview of the "recovery planning" provision and arguments for a broader focus on them, see Federico Cheever, *The Road to Recovery: A New Way of Thinking About the Endangered Species Act*, 23 ECOLOGY L.Q. 1 (1996).

29. 16 U.S.C. § 1535(c).

30. *Id.* § 1539(j). Populations that are designated as "experimental" may receive less protection than other members of the species, as they are treated as "threatened" rather than "endangered" under the Act. *Id.* § 1539(j)(2)(C).

31. *Id.* § 1533(a)(1)(A).

32. *Id.* § 1533(a)(1).

33. *Id.* § 1533(b)(1)(A).

34. *Id.* § 1533(c).

35. *Id.* § 1533(c)(2)(B).

of vertebrate fish or wildlife."[36] However, Congress did not define "distinct population segment" (DPS), and the term is not a common scientific one.[37] In 1996, DOI adopted "Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act," which provides some guidance on the use of the DPS classification.[38] This new policy defined the required elements for creating a DPS as "[d]iscreteness of the population segment in relation to the remainder of the species to which it belongs;" "[t]he significance of the population segment to the species to which it belongs;" and "[t]he population segment's conservation status in relation to the Act's standards for listing."[39] The 1996 DPS Policy also explained that "[a]ny interpretation" of "DPS" should be "aimed at carrying out the purposes of the [ESA]," such as "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species."[40]

For the most part, FWS has used its DPS authority to provide additional protection for certain populations, rather than as a tool to reduce protections.[41] But as evidenced in FWS's efforts to remove protections for wolves, discussed in Part II, FWS has recently adopted the approach of using DPS designations as a means to delist certain populations, perhaps demonstrating that it has "institutionalize[d] an acceptance of a shrinking space with a shrinking population."[42] This use of the DPS authority proves particularly relevant to discussions of range and efforts to delist. By narrowing the preservation focus to a geographically defined subset of the species, federal agencies may ignore threats to vulnerable remnant or peripheral populations that exist or stray beyond a defined area, and, importantly, lose sight of the potential for a far more robust recovery.[43] It is in this context that consideration of the wolf's historical range is so important.

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36. Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, § 2(5), 92 Stat. 3751, 3752 (1978) (codified at 16 U.S.C. § 1532(16)).

37. Humane Soc'y of the U.S. v. Jewell, 76 F. Supp. 3d 69, 79 (D.D.C. 2014), *aff'd sub nom.* Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585 (D.C. Cir. 2017).

38. Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722, 4725 (Feb. 7, 1996).

39. *Id.* at 4725.

40. *Id.* at 4722.

41. In fact, the district court in *Humane Society* described this power as a "one-way ratchet." *Humane Soc'y of the U.S. v. Jewell*, 76 F. Supp. 3d at 112.

42. Dale D. Goble, *Recovery in a Cynical Time – With Apologies to Eric Arthur Blair*, 82 WASH. L. REV. 581, 607 (2007).

43. Courts have repeatedly raised concerns about remnant or peripheral populations left unprotected after FWS attempts to reclassify species. *See, e.g.*, Defs. of Wildlife v. Sec'y, U.S. Dep't of the Interior, 354 F. Supp. 2d 1156, 1172 (D. Or. 2005); Nat'l Wildlife Fed'n v. Norton, 386 F. Supp. 2d 553, 565–66 (D. Vt. 2005). In *Humane Society*, the D.C. Circuit seemed to draw its concern, in part, from FWS using DPS designations as an impermissible workaround to effectively delisting remnant populations. Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585, 600–03 (D.C. Cir. 2017).

B. Points of Conflict: Defining Recovery and "Range"

FWS's decision to use DPS policy as a vehicle for delisting species may stem from its desire to highlight the ESA's successes. At its core, the ESA is intended to protect species from extinction, and viewed through this lens, the ESA has largely been successful. A FWS Report in 1996 found that 99 percent of the species listed under the Act before 1996 were still surviving.[44] From a recovery perspective, however, the ESA seems to have fallen short.[45] That same 1996 FWS Report identified only 37 percent of species as "stable or improving" and, at the turn of the century, while over 1200 species were listed as threatened or endangered, only six species had been downlisted or delisted.[46] Today, more than two thousand species of animals and plants around the world remain endangered or threatened.[47] This distinction, between merely preventing extinction and facilitating the more comprehensive recovery of a species, goes to the core of ESA policy and is central to understanding the debate about recovering a species across its historical range.

The spatial presence of a species is key to this discussion about recovery, and the text of the ESA indicates that some attention should be paid to geographic considerations. The Act defines an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range."[48] Similarly, a "threatened species" is one that "is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."[49] Thus, formulating a coherent understanding of both "significant portion" and "range" is key to assessing the status of a species. The ESA itself does not define these terms, and DOI has applied changing definitions over the last several decades.

At the time of the ESA's passage and the first listing of the wolf, FWS clearly understood "range" in this context of the Act to mean historical range.[50] This interpretation persisted "at least through the mid 1990s," as evidenced by FWS efforts to continue to list and even reintroduce species throughout their

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44. Cheever, *supra* note 26, at 106 (citing U.S. FISH & WILDLIFE SERV., REPORT TO CONGRESS ON THE RECOVERY PROGRAM FOR THREATENED AND ENDANGERED SPECIES 5 (1996)).

45. *See* Holly Doremus, *Restoring Endangered Species: The Importance of Being Wild*, 23 HARV. ENVTL. L. REV. 1, 4 (1999) ("The most pressing reform is simple acknowledgment that wild, broadly distributed populations are the goal of restoration, together with open discussion of any decisions that make attainment of that goal more difficult.").

46. Cheever, *supra* note 26, at 106 (citing U.S. FISH & WILDLIFE SERV., *supra* note 44, at 4).

47. *Listed Species Summary (Boxscore)*, U.S. FISH & WILDLIFE SERV., http://ecos.fws.gov/ecp0/reports/box-score-report (last visited May 15, 2018).

48. 16 U.S.C. § 1532(6) (2012).

49. *Id.* § 1532(20).

50. Sherry A. Enzler & Jeremy T. Bruskotter, *Contested Definitions of Endangered Species: The Controversy Regarding How to Interpret the Phrase "A Significant Portion of a Species' Range*," 27 VA. ENVTL. L.J. 1, 45 (2009) (pointing to the fact that the wolf was listed throughout its historical range, despite only existing in a small portion).

historical ranges.[51] Then, in 1997 FWS shifted its interpretation. The agency announced that it was withdrawing the listing of the flat-tailed horned lizard because, despite serious threats to the lizard on private lands and the fact that the lizard survived on only a fraction of its historical range, there were large tracts of public land where the species faced few threats.[52] In the subsequent legal challenge, *Defenders of Wildlife v. Norton*, the Ninth Circuit held that such a decision was arbitrary and capricious because the Secretary did not "separately consider whether the lizard is or will become extinct in 'a significant portion of its range,' as that term is used in the statute."[53] The court noted that DOI "necessarily has a wide degree of discretion in delineating 'a significant portion of its range,' since the term is not defined in the [ESA]."[54] Still, it was unsatisfied with FWS's decision not to list the lizard, explaining that in a case such as this one, where "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 agency must at the very least explain its "conclusion that the area in which the species can no longer live is not a 'significant portion of its range.'"[55]

Despite this ruling, DOI reiterated its position in a new memorandum issued by the Solicitor in 2007.[56] Pointing to the present-tense language elsewhere in the statutory provision, including "is in danger," the Solicitor reasoned that it "would be inconsistent with common usage" to say that "range" referred to historical range or to "an area where [the species] no longer exists."[57] While information about the historical range and its loss "may be relevant in understanding or predicting whether a species is 'in danger of extinction' in its current range," the memorandum explained that such a loss of range "does not necessarily mean that [the species] is 'in danger of extinction' in a significant portion of the range where it currently exists."[58] Thus, the Solicitor concluded that a species is endangered only when "it is in danger of extinction throughout a portion of its current range that is 'so important'" to its continued existence "that threats to the species in that area can have the effect of threatening the viability of the species as a whole."[59]

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51. *Id.* at 46 (pointing specifically to wolf reintroductions in Yellowstone, central Idaho, and northern Arizona).

52. *See* Defs. of Wildlife v. Norton, 258 F.3d 1136, 1140 (9th Cir. 2001); Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to List the Flat-Tailed Horned Lizard as Threatened, 62 Fed. Reg. 37,852, 37,852 (July 15, 1997) (to be codified at 50 C.F.R. pt. 17).

53. *Defs. of Wildlife*, 258 F.3d at 1140, 1146.

54. *Id.* at 1145.

55. *Id.* (citing Asarco, Inc. v. EPA, 616 F.2d 1153, 1159 (9th Cir. 1980)).

56. Memorandum from Solicitor Gen. David Longly Bernhardt, Dep't of the Interior, to the Dir. of U.S. Fish & Wildlife Serv., The Meaning of "In Danger of Extinction Throughout All or a Significant Portion of its Range" (Mar. 16, 2007), https://doi.opengov.ibmcloud.com/sites/doi.opengov.ibmcloud.com/files/uploads/M-37013_0.pdf.

57. *Id.* at 7–8.

58. *Id.* at 8–9.

59. *Id.* at 2 (quoting Ctr. For Biological Diversity v. Norton, 411 F. Supp. 2d 1271, 1278 (D.N.M. 2005)).

In 2014, FWS and the National Marine Fisheries Service[60] published a rule reinforcing this definition. The rule stated that "range" is the "general geographical area within which the species is currently found, including those areas used throughout all or part of the species' life cycle, even if not used on a regular basis."[61] It similarly reaffirmed that a portion of a species' range is significant if its "contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction, or likely to become so in the foreseeable future."[62] The Services noted that the loss of historical range enters into the analysis in a similar way, evaluating whether the "actual" loss of that historical portion currently threatens the survival of the species in its current range.[63] The rule, however, pushed back on the Ninth Circuit's holding from *Defenders of Wildlife*, explaining that, while "evaluating the effects of lost historical range on the viability of the species is an important component of evaluating the current status of the species," "the status of lost historical range should not be separately evaluated."[64] This limited consideration of historical range was central to the challenge in *Humane Society*, discussed in detail below, and reflects a narrow interpretation of the ESA's requirements.

II. THE GRAY WOLF'S DECLINE AND RESURGENCE

> *A common misconception is that wolves inhabit only remote pristine forests or mountainous areas, where human developments and other activities have produced negligible change to the natural landscape. . . . However, the primary reason wolves survived in those areas was not because of habitat conditions, but, rather, because remote areas were sufficiently free of the human persecution that elsewhere killed wolves faster than the species could reproduce.*[65]

60. The National Marine Fisheries Service is tasked with managing endangered and threatened marine species under the ESA.

61. Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species", 79 Fed. Reg. 37,578, 37,583 (July 1, 2014).

62. *Id.* at 37,579.

63. *Id.* at 37,584.

64. *Id.* at 37,584–85. On this point, the rule explains that, if a species is expected to survive in a much smaller area, the Services should undertake two possible analyses: "First, if the species has already been extirpated in some areas, the Services must determine whether the loss of those areas makes the species endangered or threatened throughout all of its current range. Second, if the species is not endangered or threatened throughout its current range, but there are areas in its current range in which the species has not been extirpated, but is in danger of extirpation (or is likely to become so in the foreseeable future), the Services must determine whether those areas constitute a significant portion of its range, and, if so, list the species in its entirety." *Id.* at 37,585.

65. Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,688 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17).

These shifting FWS interpretations of the ESA over the past two decades likely stem from political frustrations with both the substantial restrictions that the Act imposes and the apparent lack of many successes. The gray wolf's story, of imperiled decline and patchwork recovery, serves as an interesting case study for understanding these trends and analyzing the attention given to historical ranges.

A. Historical Extent of the Gray Wolf and Efforts to Save It

To consider the loss of the gray wolf's historical range sufficiently, one needs to develop some understanding of what that historical range looked like, when it changed, and how it looks today. The gray wolf likely migrated to North America from Eurasia approximately 750,000 years ago.[66] While there is some debate over the exact geographic delineation of the gray wolf's historical range,[67] evidence suggests that it was quite large, and certainly more extensive than it is today. FWS has explained that "[g]ray wolves once lived throughout most of North America"[68] and that "wolves historically occupied the entire Midwest."[69] Biologists estimate that the continent sustained hundreds of thousands of wolves,[70] and the species appeared widely in cultures of Native American tribes, many of whom held it to represent "ideals such as strength, loyalty, and wisdom."[71] As settlers moved west across the continent, however, the belief that the creature caused "widespread livestock losses" led to "large scale predator eradication programs" and to wolves being "hunted and killed with more passion and zeal than any other animal in U.S. history."[72] Starting with Colorado in 1869, western states began implementing wolf bounty programs, and throughout the first half of the twentieth century, the federal government wholly endorsed these efforts.[73] The last wolf pack was eliminated from Yellowstone

66. ROBERT H. BUSCH, THE WOLF ALMANAC 1 (1995).

67. Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. at 81,668 (providing overview of history of taxonomic status debate surrounding wolves).

68. *Id.* at 81,672.

69. *Id.* at 81,689.

70. *See* Jennifer Li, *The Wolves May Have Won the Battle, But Not the War: How the West Was Won Under the Northern Rocky Mountain Wolf Recovery Plan*, 30 ENVTL. L. 677, 681 (2000).

71. Davinna Ohlson et al., *Advancing Indigenous Self-Determination Through Endangered Species Protection: Idaho Gray Wolf Recovery*, 11 ENVTL. SCI. & POL'Y 430, 431 (2008); *see also* Remet, *supra* note 11, at 94–95.

72. U.S. FISH & WILDLIFE SERV., GRAY WOLF (CANIS LUPUS) (1998), https://www.fws.gov/uploadedFiles/Region_7/NWRS/Zone_1/Yukon_Delta/PDF/graywolf.pdf. One estimate holds that, from 1883 to 1918, more than 80,000 wolves were killed in Montana alone. Michael Lipske, *Big Hopes for Bold Beasts*, NAT'L WILDLIFE, Apr.–May 1991, at 45.

73. Li, *supra* note 70, at 683–84.

National Park in 1926,[74] and the species was eradicated from most of the lower forty-eight shortly after.[75]

At the time of the ESA's passage, "likely only several hundred wolves occurred in northeastern Minnesota and on Isle Royale, Michigan," as well as "possibly a few scattered wolves" in Montana, other parts of Michigan, and the southwestern United States.[76] The species had been extirpated "from more than 95 percent of its range in the 48 conterminous States."[77] Since then, the gray wolf has made significant strides, both through strict regulation of wolf killings and through reintroduction programs, all part of the concerted efforts to list and protect the species.

Congressional protection of the imperiled gray wolf began a few years before the enactment of the ESA. In 1967, the timber wolf was listed under the ESA's predecessor, the Endangered Species Preservation Act of 1966.[78] Under the next iteration of the Act, the Northern Rocky Mountain wolf was added as a protected species,[79] and later, after the passage of the ESA, both subspecies remained listed as endangered, with the Mexican wolf joining the list in 1976.[80] The gray wolf was subsequently reclassified at the species level and listed as endangered across the lower forty-eight states and Mexico, except for the population in Minnesota, which was listed as threatened.[81] FWS made this reclassification "because of uncertainty about the taxonomic validity of some of the previously listed subspecies and because [it] recognized that wolf populations were historically connected, and . . . subspecies boundaries were thus malleable."[82] At the same time, FWS "offer[ed] the firmest assurance that it [would] continue to recognize valid biological subspecies for purposes of its research and conservation programs."[83]

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74. Christopher T. Cook, *Reintroduction of the Gray Wolf: The Battle over the Future of Endangered Species Policies*, 5 DRAKE J. AGRIC. L. 487, 489 (2000); *Wolf Restoration*, NAT'L PARK SERV., https://www.nps.gov/yell/learn/nature/wolf-restoration.htm (last updated Dec. 15, 2017).

75. Cook, *supra* note 74, at 488–89.

76. Final Rule to Reclassify and Remove the Gray Wolf from the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States; Establishment of Two Special Regulations for Threatened Gray Wolves, 68 Fed. Reg. 15,804, 15,805 (Apr. 1, 2003) (to be codified at 50 C.F.R. pt. 17).

77. *Id.*

78. Native Fish and Wildlife: Endangered Species, 32 Fed. Reg. 4001, 4001 (Mar. 11, 1967).

79. Amendments to Lists of Endangered Fish and Wildlife, 38 Fed. Reg. 14,678, 14,678 (June 4, 1973) (to be codified at 50 C.F.R. pt. 17).

80. Determination that Two Species of Butterflies Are Threatened Species and Two Species of Mammals Are Endangered Species, 41 Fed. Reg. 17,736, 17,737 (Apr. 28, 1976) (to be codified at 50 C.F.R. pt. 17).

81. Reclassification of the Gray Wolf in the United States and Mexico, with Determination of Critical Habitat in Michigan and Minnesota, 43 Fed. Reg. 9607, 9607 (Mar. 9, 1978) (to be codified at 50 C.F.R. pt. 17).

82. Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,666 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17).

83. Reclassification of the Gray Wolf in the United States and Mexico, with Determination of Critical Habitat in Michigan and Minnesota, 43 Fed. Reg. at 9610.

Over the course of the last fifty years, wolves have rebounded in many ways. Guarded by the legal protections of the ESA, wolves have been able to disperse with fewer threats from humans. Most significantly, however, a reintroduction program in the mid-1990s drastically altered the presence of wolves in the Northern Rockies. In the winter of 1995, FWS transported several wolves from Canada to remote public land in Montana, within Yellowstone National Park, and in central Idaho.[84] These wolves were classified as "nonessential experimental" populations, as outlined in section 10(j) of the ESA.[85] This designation enabled FWS to manage the wolves with more flexibility, and the reintroduction regulations gave the agency the authority to address "problem wolves" that had depredated livestock.[86] By 2000, the population goals of at least thirty breeding pairs and more than three thousand "well-distributed" wolves had been met.[87] Today, there are nearly 2000 wolves in the Northern Rockies and Pacific Northwest and more than 3600 in the Great Lakes area.[88]

These successful reintroductions demonstrate the great adaptability of wolves and the wider potential for their recovery. Despite these accomplishments, however, the wolf is still absent from significant portions of its historical range. Wolves have not yet returned to the Northeast, though both New York and Maine likely contain favorable habitat.[89] In the West, wolves have slowly dispersed from reintroduction sites into Washington and Oregon, demonstrating both their natural tendencies and their potential for to populate new areas. The 2011 journey by OR-7, weaving over a thousand miles across wildlife refuges, national parks, and national forests, marked the first documented return of the gray wolf to California since the 1920s.[90] After about

84. Steven H. Fritts, *Planning and Implementing a Reintroduction of Wolves to Yellowstone National Park and Central Idaho*, 5 RESTORATION ECOLOGY 7, 7 (1997); *see also* Endangered and Threatened Wildlife and Plants; Establishment of a Nonessential Experimental Population of Gray Wolves in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 60,252, 60,266 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17), *discussed in* Endangered and Threatened Wildlife and Plants; Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing this Distinct Population Segment from the Federal List of Endangered and Threatened Wildlife, 72 Fed. Reg. 6106, 6108 (proposed Feb. 8, 2007) (to be codified at 50 C.F.R. pt. 17).

85. Endangered and Threatened Wildlife and Plants; Establishment of a Nonessential Experimental Population of Gray Wolves in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. at 60,252. This designation would allow the wolves "to be treated as a threatened species or species proposed for listing." *Id*. at 60,255.

86. *Id.*

87. Endangered and Threatened Wildlife and Plants; Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing This Distinct Population Segment from the Federal List of Endangered and Threatened Wildlife, 72 Fed. Reg. at 6108.

88. Emma Marris, *Why OR7 Is a Celebrity*, HIGH COUNTRY NEWS (Jan. 23, 2017), http://www.hcn.org/issues/49.1/why-or7-is-a-celebrity.

89. *See* Remet, *supra* note 11, at 116–18.

90. *See OR-7 – A Lone Wolf's Story*, *supra* note 2.; CAL. DEP'T OF FISH & WILDLIFE, GRAY WOLVES IN CALIFORNIA: AN EVALUATION OF HISTORICAL INFORMATION, CURRENT CONDITIONS, POTENTIAL NATURAL RECOLONIZATION AND MANAGEMENT IMPLICATIONS 35–36 (2011),

a year and a half in the state, OR-7 made the journey back to Oregon, where it produced several rounds of offspring.[91] Today, wolves maintain a limited but continued presence on National Forest land in northern California but remain absent in vast portions of their historical range.[92]

B. Recent Efforts to Delist the Gray Wolf

Despite this absence, FWS has more recently focused on efforts to delist the gray wolf. In 2003, it published a rule that reclassified the wolf into three distinct DPSs and downlisted the species in two of them.[93] The newly defined Eastern DPS included states across the Midwest, the Northeast, and New England, while the Western DPS included wolves in Washington, Oregon, California, and Nevada, as well as in parts of Idaho, Montana, Utah, and Colorado.[94]

Two district courts, one in Oregon and one in Vermont, struck down this rule. The Oregon court held that the "Secretary's conclusion that the viability of two core populations in the Eastern and Western DPSs makes all other portions of the wolf's historical or current range insignificant and unworthy of stringent protection is contrary to Ninth Circuit precedent and the ESA."[95] In other words, the court concluded that the Secretary had impermissibly defined "significant portion of its range" as areas that only ensured viability of a DPS and had extended the boundaries of each DPS so broadly that "the conservation status of populations within each DPS varie[d] dramatically."[96] This "inversion of the DPS policy" enabled FWS to delist large areas without adequately applying the five elements of ESA listings.[97] The Vermont district court similarly held that the expansive designation of the Eastern DPS was "in violation of DPS policy and the ESA," and found the Secretary's conclusion that the viability of the core population in the Western Great Lakes made all other areas insignificant to be arbitrary and capricious, given that the agency had "acknowledged in the

https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=76636&inline (recounting the last credible accounts of wolves in California from the early 1900's).

91. *OR-7 – A Lone Wolf's Story*, *supra* note 2.

92. *See id.*

93. Final Rule to Reclassify and Remove the Gray Wolf from the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States; Establishment of Two Special Regulations for Threatened Gray Wolves, 68 Fed. Reg. 15,804, 15,804 (Apr. 1, 2003) (to be codified at 50 C.F.R. pt. 17). The Rule also delisted the wolf in fourteen southeastern states "based on 'listing error' because that region was not part of the gray wolf's historical range," and was instead said to be part of the range of the red wolf. Defs. of Wildlife v. Sec'y, U.S. Dep't of the Interior, 354 F. Supp. 2d 1156, 1162 (D. Or. 2005).

94. *Defs. of Wildlife*, 354 F. Supp. 2d at 1162. The Eastern DPS included wolves in North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Pennsylvania, New York, New Jersey, Massachusetts, Connecticut, Rhode Island, Delaware, Vermont, New Hampshire and Maine. *Id.*

95. *Id.* at 1168.

96. *Id.* at 1171.

97. *Id.* at 1171–72.

Proposed Rule that there would be 'extensive and significant gaps' in the wolf's range without a wolf population in the Northeast."[98]

Though it did not appeal these rulings, FWS tried again to delist the wolf in 2007. This time, the agency designated the Western Great Lakes population of gray wolves as a separate DPS and subsequently delisted it.[99] FWS defended this rule on the grounds that the plain meaning of the ESA unambiguously authorized the agency to create a DPS for the purpose of delisting it.[100] A district court disagreed, however, and, finding the statute ambiguous with no basis on which to judge the reasonableness of FWS's interpretation, remanded the rule "to FWS so that the agency can provide a reasonable explanation for the interpretation of the Act."[101] Again, the agency did not appeal.

C. The D.C. Circuit's Response in Humane Society

After these failed attempts to delist, the Solicitor of the DOI issued a memorandum "analyzing the statutory authority for designating distinct population segments for the specific purpose of delisting them."[102] The memorandum concluded that "FWS had clear authority" to determine that the wolves in the Western Great Lakes were a separate DPS that "was neither endangered nor threatened, and then to revise the list of endangered and threatened species . . . to reflect those determinations."[103] Even if such authority was unclear, the memorandum explained, "FWS's interpretation of its authority. . . [was] reasonable and fully consistent with the ESA's text, structure, legislative history, relevant judicial interpretations, and policy objectives."[104]

Citing this memorandum, FWS published a final rule in 2011 that redefined the Minnesota population as the Western Great Lakes DPS, which covered Minnesota, Wisconsin, and Michigan, as well as portions of North Dakota, South Dakota, Iowa, Illinois, Indiana, and Ohio.[105] As a result of this classification,

98. Nat'l Wildlife Fed'n v. Norton, 386 F. Supp. 2d 553, 565–66 (D. Vt. 2005).

99. Final Rule Designating the Western Great Lakes Populations of Gray Wolves as a Distinct Population Segment; Removing the Western Great Lakes Distinct Population Segment of the Gray Wolf from the List of Endangered and Threatened Wildlife, 72 Fed. Reg. 6052, 6052 (Feb. 8, 2007) (to be codified at 50 C.F.R. pt. 17).

100. Humane Soc'y of the U.S. v. Kempthorne, 579 F. Supp. 2d 7, 14–15 (D.D.C. 2008).

101. *Id.* at 19–20.

102. Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585, 592 (D.C. Cir. 2017); Memorandum from Solicitor Gen. David Longly Bernhardt, Dep't of the Interior, to Dir. of U.S. Fish & Wildlife Serv., U.S. Fish and Wildlife Service Authority Under Section 4(c)(1) of the Endangered Species Act to Revise Lists of Endangered Species and Threatened Species to "Reflect Recent Determinations" 3–5 (Dec. 12, 2008), https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37018.pdf.

103. Memorandum from Solicitor Gen. David Longly Bernhardt, *supra* note 102, at 19.

104. *Id.* at 2–3.

105. Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,666 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17). In 2009, FWS had also attempted to republish the 2007 Rule, based on the recently released Solicitor's Opinion. *See* Final Rule to Identify the Western Great Lakes Populations of Gray Wolves as a Distinct Population Segment and to Revise the List of Endangered and Threatened Wildlife, 74 Fed. Reg. 15,070, 15,083 (Apr. 2, 2009) (to be codified at 50 C.F.R. pt. 17). This attempt was challenged in court

FWS concluded that the new DPS "[did] not meet the definitions of threatened or endangered under the [ESA]," and thus it removed the population from the List of Endangered and Threatened Wildlife.[106] Notably, FWS explicitly stated that it was "separating [its] determination on the delisting of the Western Great Lakes DPS from the determination on [its] proposal regarding all or portions of the 29 eastern States [it] considered to be outside the historical range of the gray wolf."[107]

Humane Society arose from this latest attempt at gray wolf reclassification. Environmental groups raised several challenges to the new rule, including that FWS impermissibly created a DPS for the purpose of delisting it and improperly defined the wolf's range as its "current range."[108] In defending its action of designating a new DPS and delisting it in the very "next breath,"[109] FWS relied on both Solicitor opinions.[110] Once it stated it had the authority to designate a DPS for the purpose of delisting it, FWS reasoned that the Western Great Lakes population was discrete and significant, given the distance of more than four hundred miles between it and other segments and given that the population contained "70 percent of North American gray wolves known to occur south of Canada."[111] Next, FWS concluded that the Western Great Lakes segment was "neither endangered nor threatened throughout all or a significant portion of its range," which the agency defined as the species' current range.[112]

The D.C. Circuit vacated the 2011 Rule, issuing a mixed ruling that affirmed FWS's authority to interpret the Act as it did, but found problems with how the agency applied its interpretations. The court made the following findings: (1) FWS's interpretation that the ESA permitted the agency to designate "a distinct population segment within a listed species is a reasonable reading of the statutory text and . . . does not contravene the purposes of the [ESA];"[113] (2) FWS improperly exercised that authority in this case because it failed to consider the effect of such segmentation on the rest of the species, including remnant

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and struck down for failure to engage in notice and comment. *See Humane Society*, 865 F.3d at 593. When attempts to delist the gray wolf in Montana, Idaho, parts of Washington, Oregon, and Utah failed in court, Congress stepped in and attached the delisting provision to a 2011 budget bill. Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. No. 112-10, § 1713, 125 Stat. 38, 150 (2011); *see also* Clyde Haberman, *For Gray Wolves, a Success Story Not Without Detractors*, N.Y. TIMES (Nov. 2, 2014), https://www.nytimes.com/2014/11/03/us/for-gray-wolves-a-success-story-not-without-detractors.html?_r=0.

106. Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. at 81,666.

107. *Id.*

108. Brief for Plaintiffs-Appellees The Humane Soc'y of the U.S. et al. at 31, 47, Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585 (D.C. Cir. 2017) (No. 15-5041), 2016 WL 3194568, at *31, *47.

109. *Humane Society*, 865 F.3d at 594.

110. *Id.* at 593–94

111. *Id.* at 594 (quoting Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. at 81,672).

112. *Id.*

113. *Id.* at 597.

populations;[114] (3) FWS's definition of "range" as referring to a species' current range is reasonable;[115] but (4) the ESA requires FWS to consider the loss of historic range when evaluating the threats confronting a species, and the agency's failure to do so makes its conclusions about such threats "insufficiently reasoned, and therefore arbitrary and capricious."[116] Based on these conclusions and based on the "'seriousness of the [Rule's] deficiencies' and the absence of materially 'disruptive consequences,'" the court affirmed the district court's decision to vacate the rule.[117]

The court in *Humane Society*, for the first time, deferred to the agency's decision to define "range" as "current range," but held that the agency still must consider how the loss of historic range affects the factor test for listing and delisting species. Its decision perhaps reflected its own discomfort with how FWS had interpreted the ESA in a way that severely undermined the Act's purposes. By defining "range" as "current range" and by using the DPS authority to carve up a species into isolated segments, FWS inherently limits the power of the ESA and "conflates preventing extinction with recovery."[118] While a species with a small core population and dispersed peripheral populations struggling to sustain themselves would likely meet the definition of endangered or threatened in a significant portion of its range, the same species could be classified as non-threatened if, several years later, the peripheral population had disappeared and thus the current range shrunk to merely the core area.[119] It is important not to understate the effects that this new interpretation has on ESA policy.[120] But it is also important to recognize that by giving sufficient consideration to the gray wolf's historical range, it is still possible to meet the purposes of the ESA and to achieve broader conservation goals.[121] The next two sections of this Note provide a framework for how to do so.

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114. *Id.* at 600–03.

115. *Id.* at 603–05.

116. *Id.* at 603. The Court also held that FWS adequately considered the combined threats to the species from disease and human-caused death, provided a reasonable decision on the effects of killing zones in Minnesota that was "grounded in substantial evidence," and did not improperly segment the species on the basis of political pressure. *Id.* at 607–14.

117. *Id.* at 614–15 (quoting Sugar Cane Growers Coop. of Fla. v. Veneman, 289 F.3d 89, 98 (D.C. Cir. 2002)).

118. Goble, *supra* note 42, at 609.

119. *See* Mike Kauffman, *Through the Looking Glass: The Delisting of the Yellowstone Grizzly*, 44 IDAHO L. REV. 213, 239–40 (2007).

120. *See* Enzler & Bruskotter, *supra* note 50, at 47 (identifying "clear drawbacks" to this new definition of "range" and noting that it could "actually prevent the Secretary from listing species in suitable historic range that is adjacent to the species' current range, even if the FWS determined that expanding protections to include adjacent habitat was the best method for preventing the extinction of the species").

121. After courts struck down FWS's previous attempts to delist the Rocky Mountain gray wolf in Montana and Idaho, Congress stepped in and passed a budget bill that accomplished the same outcome. *See* Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. No. 112-10, § 1713, 125 Stat. 38, 150 (2011). Such action, however, effectively "short-circuited an important debate about what it means to recover a species." Jason C. Rylander, *Recovering Endangered Species in Difficult Times: Can the ESA Go Beyond Mere Salvage?*, 42 Envtl. L. Rep. News & Analysis (Envtl. Law Inst.)

III. PRINCIPLES THAT UNDERLIE SPECIES MANAGEMENT DECISIONS

> *What is man without the beasts? If all the beasts were gone, man would die from a great loneliness of spirit. For whatever happens to the beasts, also happens to the man.*[122]

To understand what role the gray wolf's historical range should play in its continued management, it is helpful to develop principles for why historical range matters. First, however, this Part will examine traditional driving principles cited in support of species preservation generally. Then, it will explore how these traditional principles translate over to discussions about historical range and will introduce additional principles relevant to such discussions.

A. Traditional Principles That Drive Species Preservation

Despite the ESA's focus on the "best scientific and commercial data available,"[123] there are normative and value-laden determinations underlying all decisions about species management.[124] While the following principles are separated into distinct categories, there exists substantial overlap between them, and they should not be understood rigidly.

1. Utilitarian Justifications

One of the traditional driving justifications for species preservation is the argument that humans derive some utilitarian value from the continued existence of the species,[125] both through the species' "present practical value" and its "potential future practical value."[126] The very text of the ESA declares that the covered "species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people."[127] This value can take many forms beyond just financial value, which

10,017, 10,017 (2012). Similar bills have been introduced for the Western Great Lakes Wolf. *See* Gray Wolf State Management Act of 2017, H.R. 424, 115th Cong. (2017) (introduced in the House on January 10, 2017); S. 164, 115th Cong. (2017) (introduced in the Senate on January 17, 2017). Both would preclude judicial review.

122. BUSCH, *supra* note 66, at 1 (quoting Chief Seattle of the Puget Sound Suwamish Tribe, 1855).

123. 16 U.S.C. § 1533(b)(1)(A) (2012).

124. *See* John A. Vucetich et al., *The Normative Dimension and Legal Meaning of* Endangered *and* Recovery *in the U.S. Endangered Species Act*, 20 CONSERVATION BIOLOGY 1383, 1384 (2006) (explaining that "specifying the conditions representing endangerment is a fundamentally normative (not scientific) determination, although appropriate determination would be informed by relevant scientific facts").

125. *See* Susan Emmenegger & Axel Tschentscher, *Taking Nature's Rights Seriously: The Long Way to Biocentrism in Environmental Law*, 6 GEO. INT'L ENVTL. L. REV. 545, 552 (1994) (noting that "environmental protection based on humankind's immediate self-interest gave rise to a first wave of environmental instruments" whose "primary purpose . . . was to maximize nature's resources").

126. Kunich, *supra* note 8, at 522.

127. 16 U.S.C. § 1531(a)(3).

the ESA notably does not mention,[128] but the underlying idea is that "saving species confers many benefits to humanity that far outweigh the disadvantages of implementing . . . legislation" such as the ESA.[129] In addition, this view relies heavily on concepts of anthropocentricism "because it assumes the superiority of human interest over the interest of other entities of nature."[130] But utilitarian justifications for species preservation do not need to be wholly speciesist.[131] Some people derive substantial and measurable enjoyment from merely knowing that gray wolves continue to exist in a wild setting, whether or not they directly use the animals in any obvious way.[132]

Some utilitarian values are obvious. For example, many animals "have immense direct harvest value to humans," including for food, aesthetic goods, and trophies.[133] This value can be supplied directly, such as through the consumption of the animal itself, or through indirect effects from the animal "that facilitate the production of other plants or animals[,] which in turn are consumed or otherwise used."[134] Charismatic species, such as whales, can also create significant economic value through ecotourism.[135] And from a more aesthetic view, a species' intangible value can be a source of "emotional sustenance" as a revered cultural symbol or source of entertainment.[136]

Other utilitarian justifications may be less obvious but are often cited by proponents of the ESA. For example, the potential genetic information found within unique species "might yield substantial pharmaceutical, industrial, or

128. *See* Doremus, *supra* note 45, at 12 ("Conspicuously absent from this list is financial or economic value. The ESA seeks to preserve species for the hearts and minds, rather than the wallets, of present and future generations." (footnote omitted)).

129. Joe Mann, *Making Sense of the Endangered Species Act: A Human-Centered Justification*, 7 N.Y.U. ENVTL. L.J. 246, 253, 305 (1999) (noting also that, "[i]n protecting species, the ESA protects vital human interests that are simply more important than most other policy considerations").

130. Emmenegger & Tschentscher, *supra* note 125, at 557.

131. Barton H. Thompson, Jr., *People or Prairie Chickens: The Uncertain Search for Optimal Biodiversity*, 51 STAN. L. REV. 1127, 1134 (1999) (discussing WILLIAM F. BAXTER, PEOPLE OR PENGUINS: THE CASE FOR OPTIMAL POLLUTION (1974)).

132. *Id.* at 1135 (discussing how William F. Baxter justified measuring the value of the environment only in terms of the value to humans on the grounds that there is no other realistic way to expect people to act and often human preferences will sufficiently protect species).

133. *Id.*

134. Kunich, *supra* note 8, at 523. These indirect benefits are often less obvious, making it more likely that "humans may destroy or allow the destruction of these insects without realizing the consequences." *Id.* at 524; *see also* Jacqueline Lesley Brown, *Preserving Species: The Endangered Species Act Versus Ecosystem Management Regime, Ecological and Political Considerations, and Recommendations for Reform*, 12 J. ENVTL. L. & LITIG. 151, 157 (1997).

135. Thompson, *supra* note 131, at 1135. Notably, after wolves were reintroduced to Yellowstone National Park, researchers estimated that park visitation increased by 3.7 percent due to the presence of wolves, leading to an estimated increase in visitor spending in the local economy of more than $35 million. JOHN DUFFIELD ET AL., WOLVES AND PEOPLE IN YELLOWSTONE: IMPACTS ON THE REGIONAL ECONOMY 6 (2006).

136. Kunich, *supra* note 8, at 527–28; *see also* Mann, *supra* note 129, at 258 ("We prevent the extinction of certain species, then, for many of the same reasons that we might prevent the destruction of a treasured work of art.").

agricultural value."[137] Discoveries of new uses from animals "often transform[ ] apparently inconsequential species into valuable assets," and if such "unassuming" species go extinct, those beneficial uses may never come to fruition.[138] From this view, it seems wiser to preserve as many species as possible just in case one of them leads us to the cure for a horrible disease, and it is likely "in the best interests of mankind to minimize the losses of genetic variations."[139]

In addition, humans derive benefit from many species' biological services. Bees, for example, both produce honey and pollinate plants and crops. Even in 1973, "Congress clearly understood the interrelation between various species and the optimal functioning of the ecosystems in which they dwell, and in particular, the mutually reinforcing effects of habitat degradation and species loss."[140] While the ecological contributions of each species may vary significantly, the "overall value of ecosystem services" appears to be substantial, including such vital activities as "detoxification and decomposition of wastes, purification of air and water, generation and renewal of soil and soil fertility, pollination of crops and natural vegetation, control of harmful agricultural pests, mitigation of floods, [and] partial stabilization of climate."[141] These utilitarian and instrumental reasons can successfully encourage the preservation of species, as they are so intricately related to human needs, but they also seem to provide an incomplete picture.

2. Moral and Ethical Justifications

Moral and ethical justifications also underlie decisions to preserve and protect species and can perhaps fill the gaps left by utilitarian principles. Even those individuals who subscribe to the most utilitarian of justifications might "draw the line at exploiting . . . species into extinction."[142] Such moral underpinnings may stem from an acknowledgement of human causation and a related sense of guilt,[143] or from a sense that humans, as "the most cognitively advanced and influential form of life on the planet, [have] a duty of stewardship towards more poorly privileged species."[144] It could also stem from "the belief

137. Thompson, *supra* note 131, at 1136.

138. Kunich, *supra* note 8, at 524; *see also* Mann, *supra* note 129, at 254 ("First and foremost, the drafters of the ESA were concerned about protecting the earth's genetic resources for the benefit of present and future generations.").

139. Mann, *supra* note 129, at 254 (quoting H.R. REP. NO. 93-412, at 4–5 (1973)).

140. *Id.* at 257.

141. Thompson, *supra* note 131, at 1136–37.

142. Kunich, *supra* note 8, at 528; *see also* Mann, *supra* note 129, at 262 ("More than just condemning the instrumentally relevant effects of environmental degradation, several legislators expressed a sense of moral disdain towards the wastefulness and recklessness of the action itself.").

143. *See* Mann, *supra* note 129, at 262 ("In passing the ESA, Congress seems to have been making a commitment to species preservation founded at least partially upon an intrinsic moral duty in humans to prevent widespread species extinction.").

144. *Id.*

that [a species] has an independent right to exist free from human interference,"[145] no matter how insignificant it may seem, though the ESA's explicit exclusion of undesirable species such as pests perhaps undermines this rationality.[146]

Some cite religious justifications for the preservation of species. In 1996, Bruce Babbitt, then the DOI Secretary, recounted a letter he had recently received "from five different religious orders" opposing a bill intended to weaken the ESA.[147] Babbitt explained that these representatives from "such diverse faiths" supported a strong ESA on spiritual grounds, and that "[t]hose religious values remain[ed] at the heart of the [ESA]." He went on to find religious expression "manifest[ed] through the green eyes of the grey wolf, through the call of the whooping crane, through the splash of the Pacific salmon, and through the voices of America's children."[148] In 2015, the Vatican released an encyclical letter from Pope Francis, which explained that it was improper "to think of different species merely as potential 'resources' to be exploited, while overlooking the fact that they have value in themselves," adding that "[e]ach year sees the disappearance of thousands of plant and animal species which we will never know, which our children will never see, because they have been lost for ever."[149] The Evangelical Environmental Network and the Coalition on Environment and Jewish Life have similarly framed the debate around the mandate to protect creatures created by God.[150] At the center of many of these religious arguments is the story of Noah, in which God instructed Noah to save two of every animal.[151] One scholar argues that God's directive to Noah "provides a compelling case for protecting all endangered species regardless of whether one believes that a flood actually occurred or whether one finds the scriptures authoritative."[152]

The moral justification for species preservation can also take the form of an intergenerational duty, as "people may want to preserve other species as a living legacy for their children and grandchildren, feeling it is wrong to deprive their

145. *Id.* at 265. While the ESA does not explicitly cite this as a justification, there is evidence from the Act's legislative history that it motivated some legislators. *Id.* at 266–68.

146. *See* 16 U.S.C. § 1532(6) (2012) (excluding from "endangered species" any species "of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this [Act] would present an overwhelming and overriding risk to man").

147. Bruce Babbitt, *Between the Flood and the Rainbow: Our Covenant to Protect the Whole of Creation*, 2 ANIMAL L. 1, 7 (1996).

148. *Id.* at 8.

149. Pope Francis, Encyclical Letter Laudato Si' of the Holy Father Francis on Care for Our Common Home ¶ 33 (May 24, 2015).

150. *See* John Copeland Nagle, *Playing Noah*, 82 MINN. L. REV. 1171, 1176–77 (1998).

151. To be sure, some people also cite religious sources to justify mankind's superiority and dominion over nature. Some point to the beginning of Genesis, claiming that God gave mankind "dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth." *Genesis* 1:26 (King James); *see also* Babbitt, *supra* note 147, at 4–5.

152. Nagle, *supra* note 150, at 1178–79.

posterity of a heritage their own ancestors had passed down for their enjoyment."[153] In this sense, this moral explanation is not necessarily one of a duty to other creatures or to the environment, but rather a duty to future humans. Such a moral justification stems, in part, from the finality of extinction. As one scholar notes, the drafters of the ESA "seemed to cringe at the thought of irrevocably erasing another form of life for all time," and the "additional fact that it has taken millions of years for the evolutionary process to create the species presently in existence seems to have sharpened this sense of moral responsibility."[154]

B. Principles Relevant to Considerations of the Gray Wolf's Historical Range

As noted, many of the principles that underlie the ESA stem from the mere desire to prevent eradication of a species. One scholar described the ESA as "the legal equivalent of the controversial religious concept of deathbed repentance."[155] However, while FWS may have "restricted [its] focus to viability issues,"[156] the ESA's text and spirit suggest, if not mandate, a focus on recovery that goes beyond ensuring species survival and actually results in improvement.[157] For the gray wolf, the Act successfully brought the species back from the brink of extinction—a rare accomplishment—and as the species ventures into a territory few others have traversed, it is important to explore the principles that do and should inform the decisions surrounding its recovery and management. In other words, it is important to establish that "[u]sing rarity to trigger legal protection is not the only paradigm in biological conservation."[158]

1. Principles Drawn from Traditional Justifications

a. Applying Utilitarian Justifications to Historical Range Recovery

In some ways, restoring the gray wolf to a greater portion of its historical range adds little to traditional utilitarian justifications for species preservation and may in fact be undermined by such principles. Pure utilitarianism calls for "a calculation of [the] countervailing interests of humans desiring to enjoy nature" while at the same time exploiting wolves, and only "as long as the

153. Kunich, *supra* note 8, at 528.
154. Mann, *supra* note 129, at 263.
155. Kunich, *supra* note 8, at 550.
156. Carroll et al., *supra* note 13, at 402.
157. *See* Cheever, *supra* note 28, at 73; Doremus, *supra* note 45, at 10 ("The text of the ESA demonstrates, albeit somewhat obliquely, the primacy of wild recovery. The Act defines an endangered species as one that is in danger of extinction 'throughout all or a significant portion of its range.' That definition shows that the Act's objective is the protection of free-ranging, widely distributed populations as opposed to captive populations, which have no 'range.'" (quoting 16 U.S.C. § 1532(6) (2012))).
158. Robert L. Fischman & Jeffrey B. Hyman, *The Legal Challenge of Protecting Animal Migrations as Phenomena of Abundance*, 28 VA. ENVTL. L.J. 173, 178 (2010).

balance tips in favor of enjoyment," should wolves be protected.[159] Wolves are not usually a source of food for humans; instead, many would argue that more widespread wolf populations would threaten other species—both domesticated and wild—that humans currently harvest for food.[160] Many ranchers view the increased presence of wolves as a threat to their very livelihood, and ranchers in areas where the wolf has been absent may see a rise in livestock depredation.[161] The greater number of wolves in more places could likewise limit the species' draw from an ecotourism perspective, as more people in more places would have ready access to wolves closer to home.[162]

Nevertheless, on balance, restoration of wolves across a more substantial portion of their historical range would seem to further utilitarian interests. The spread of wolves across a wider landscape would likely lead to the broader ecosystem benefits that have been achieved in areas where they now thrive.[163] More frequent and widespread human interactions with wolves may serve educational benefits, leading to a better understanding of and appreciation for the species. In addition, from a scientific standpoint, the ability to monitor wolves and watch where they choose to move and how they adapt could be of great value to researchers studying wolf behavior and, more broadly, species' methods of adapting to a changing climate. Finally, new portions of the country could see a new form of ecotourism, centered around the return of this wondrous creature to its home of the past.[164]

The ecosystem engineering that wolves perform is also a powerful utilitarian justification for restoring the wolf to its historical range and highlights

159. Emmenegger & Tschentscher, *supra* note 125, at 558.

160. The Environmental Impact Statement for the Yellowstone wolf reintroduction program estimated that that increase in wolves would result in foregone hunter benefits of between $187,000 and $465,000 annually. While the subsequent research is mixed, studies indicate that losses have been consistent with that range. DUFFIELD ET AL., *supra* note 135, at 54–58.

161. The Yellowstone Reintroduction Program Environmental Impact Statement similarly estimated that that increase in wolves would result in an average depredation of 29 cattle and 135 sheep across Montana and Idaho. U.S. FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, FINAL ENVIRONMENTAL IMPACT STATEMENT: THE REINTRODUCTION OF GRAY WOLVES TO YELLOWSTONE NATIONAL PARK AND CENTRAL IDAHO 2-33–2-36 (1994). Studies conducted in the ten years following the reintroduction show that the average annual compensation payments for livestock depredation was approximately $27,000, for a total of 967 animals. Many ranchers, however, believed that the verification standards for the compensation programs were too strict and that many livestock losses were unaccounted for. DUFFIELD ET AL., *supra* note 135, at 53–54.

162. This is not to say that ecotourism benefits would disappear entirely. There will still be places where wolves do not and likely never will return. Moreover, there may still be a particular appeal in seeing wolves in specific dramatically wild places, such as in Yellowstone.

163. *See* Carroll et al., *supra* note 13, at 402 ("The value of other species to humans and their role in the ecosystems they historically inhabited lies not merely in their continued existence, but in their existence in a given place or places."); *see also* Fischman & Hyman, *supra* note 158, at 178 ("The sustained-yield principle that guided the Progressive Movement's conservation program promised perpetual abundance of nature's bounty.").

164. *See* Remet, *supra* note 11, at 143 (explaining, in the context of possible wolf reintroduction to New York state, that though "evidence shows that tourism in northern New York is not based primarily on observing wildlife, the reintroduction of wolves may build upon the existing tourist base").

a shortcoming of the ESA as FWS applies it. When the wolf was eradicated from Yellowstone National Park, the ecosystem saw "far ranging" and "unpredictable" effects, including an "explosion of competitor hunter species, such as coyotes" and the decline of scavenger species, such as bears and ravens, who could no longer depend on the remains of wolf kills.[165] Since the wolf has returned, the landscape has changed, as aspen, willow, and cottonwood trees have reappeared in various parts of the park, altering the structure and function of the ecosystem for a wide range of species.[166] Under the "minimalist, core-area approach"[167] recently adopted by FWS, however, wide-ranging benefits like these are forgone. Even if a species is saved from extinction and continues to live in the wild in some form, a focus on mere preservation "removes much of the ecological contributions made by the species"[168] and likely means that the species would "have insufficient numbers to retain [its] niche and interact with other species as a meaningful component of the food web."[169] And one of the "bitter truth[s]" of current ESA policy is that FWS's definition of recovery is "departing further and further from the ideal of restoring species to be functional elements of healthy ecosystems."[170] Instead, restoring the wolf to more key parts of its historical range may be "an important conservation need . . . to maintain the resiliency of wildland ecosystems, especially with a rapidly changing climate."[171]

b. Applying Moral and Ethical Justifications to Historical Range Recovery

Like utilitarian justifications, the moral justifications underlying the ESA may not perfectly align with the goals of restoring the wolf to its historical range, though they provide some support. The moral sense that animals are worth saving for their own sake and the religious underpinnings referenced in the story of Noah do not lend obvious support for more complete restoration. Preventing the

165. Cook, *supra* note 74, at 489.

166. *See* William J. Ripple & Robert L. Beschta, *Trophic Cascades in Yellowstone: The First 15 Years After Wolf Reintroduction*, 145 BIOLOGICAL CONSERVATION 205, 206, 211 (2012) (noting that wolves have had direct and indirect effects on elk, foxes, ravens, bald eagles, coyotes, songbirds, beavers, and other species).

167. Goble, *supra* note 42, at 609 (explaining that "[t]his is particularly important for wolves, salmon, and other keystone or strongly interacting species that play disproportionate roles in shaping ecosystems" (footnotes omitted)).

168. Carroll et al., *supra* note 13, at 400.

169. Kunich, supra note 8, at 551–52.

170. Jamison E. Colburn, *Canis (Wolf) and Ursus (Grizzly): Taking the Measure of an Eroding Statute*, NAT. RESOURCES & ENV'T, Fall 2007, at 22, 22.

171. Ripple & Beschta, *supra* note 166, at 212; *see also* Bruskotter et al., *supra* note 5, at 402–03 (noting that "there is widespread agreement that top predators, including wolves, have a substantial influence on the species with which they interact" and that the "value placed on ecological function in the ESA together with wolves' ecological influence provide another route to understanding why it is important to view the phrase 'significant portion of range' in a geographic context"); Doremus, *supra* note 45, at 11 ("Any protection of ecosystems must come through the protection of species. Preservation of species in captivity can never fulfill the purpose of conserving their ecosystems. Protection of species in their native habitats can at least provide that possibility.").

destruction of an entire species, because it is irreversible and completely removes a piece of nature's puzzle, is distinct from merely preventing the expansion of a species or killing an individual member.[172] One legislator, in a House Report, distinguished these acts, noting that "when a wolf kills, he is but an agent of the continuous cycle of life and death," but in contrast, "the death of an entire species is profound" because "[i]t means that nature has lost one of its components, which played a role in the interrelationship of life on earth."[173] However, for some, the sense of duty to right a human-caused wrong may still persist and may encourage support for a recovery that more closely resembles the pre-human landscape. At a 1995 House hearing on the FWS wolf reintroduction program, Secretary Babbitt reflected on his family's own role in "the movement to eradicate the wolves from the lower 48," expressing a sense of personal responsibility and, perhaps, guilt.[174] Similarly, concerns about intergenerational effects and access may support arguments for restoring the wolf across its range,[175] and "religious obligation" may require "allowing [nature] to remain wild, as it was designed" and "as intended by its Creator."[176]

2. Principles Uniquely Relevant to Historical Range Restoration

While traditional principles provide some support for the restoration of the gray wolf across its historical range, there are other principles that may be even more compelling in this context. In particular, these principles endorse an approach to species recovery that is more geographically comprehensive and complex than mere species preservation.

a. Biological Connectivity and Species Adaptation

In addition to the biological services justification, the return of the wolf to more areas of its historical range may lead to enhanced biological connectivity between populations that can foster beneficial genetic exchanges and support the long-term survival of the species.[177] Peripheral populations "provide biological and genetic options" and are "at the edge of the species's range and thus often subject to different evolutionary pressures."[178] As such, they are the ones most

172. *See* Mann, *supra* note 129, at 270.

173. *Predatory Mammals and Endangered Species: Hearings Before the Subcomm. on Fisheries & Wildlife Conservation of the H. Comm. on Merch. Marine & Fisheries*, 92d Cong. 480, 484 (1972) (statement of Sen. Cranston), *cited in* Mann, supra note 129, at 270.

174. Valerie Richardson, *Decrying Wolves*, NAT'L REV., Mar. 20, 1995, at 28, 30; *see also* Doremus, *supra* note 45, at 14 ("Whatever its source, an ethical obligation to species would seem to require that they be allowed to flourish in the wild.").

175. *See* Doremus, *supra* note 45, at 14 ("Only wild species will appeal to the hearts and minds of future generations as they do to the current generation.").

176. *Id.*

177. *See* Dale D. Goble, *The Endangered Species Act: What We Talk About When We Talk About Recovery*, 49 NAT. RESOURCES J. 1, 40 (2009).

178. Goble, *supra* note 42, at 606.

"likely to survive . . . when a species undergoes substantial reductions in range."[179] But relying solely on the continued survival of core populations "embodies a static model of nature."[180] The landscapes that wolves inhabit are continually changing: "A wind storm blows down a tree, opening a space that provides opportunities for shade-intolerant plants. Lightning triggers a fire that creates a complex mosaic of burned and unburned areas."[181] When viewed in this light, the persistence of the wolf over time and across space may depend on the wolf's ability to "coloniz[e] . . . emerging patches of suitable habitat" and disperse there safely.[182] Allowing wolves to roam with relative safety across large geographic areas, as they once did, provides greater assurance of a genetically and biologically robust population that is able to adapt to the changing climate and landscape.[183]

b. Unique "Wolfness" and the Excitement and Curiosity It Inspires

Just as the "monumental scenery" of the American landscape "prompted the creation of the national parks" through a "preservation tradition that values the inspirational in nature,"[184] the inherent "wolfness" of the gray wolf and its wild propensity to wander are in and of themselves worth conserving. Although the mere preservation of the wolf supports this principle as well, such an approach loses some of the most awe-inspiring attributes of the wolf: its wildness and its remarkable ability to—and penchant for—wandering unconstrained across the landscape where its natural instincts lead it. This is the same principle that holds that "[w]ild creatures, unconfined and uncontrolled by any human volition, inspire awe and wonder that captive animals cannot match."[185] An animal that has volition to move freely across its own dominion is more inspirational than one whose borders are strictly defined and regulated. OR-7's journey and the frenzied attention it caused provide a nice example of this.[186] The uncertainty of where he was headed, where he would settle, and whether he would mate and reproduce was a source of excitement not felt within California in decades.[187] One can say that this excitement—along with the knowledge that wolves can and

179. *Id.*
180. *Id.* at 607.
181. *Id.* at 608 (footnotes omitted).
182. *Id.*
183. The maintenance of multiple populations of wolves makes the survival of the species more likely because "[w]hen a species is able to exist in several relatively discrete populations, it has a higher probability of developing and retaining evolutionary variety and adaptations to multiple environmental conditions." Kunich, *supra* note 8, at 558–59. For a similar analysis on protecting migrating species, see Fischman & Hyman, *supra* note 158, at 175.
184. Fischman & Hyman, *supra* note 158, at 178.
185. Doremus, *supra* note 45, at 12.
186. *See* Marris, *supra* note 88.
187. OR-7 inspired two documentaries, a children's book, and a Twitter account. *Id.*; *see also* Maria L. La Ganga, *OR7, the Wandering Wolf, Looks for Love in All the Right Places*, L.A. TIMES (May 13, 2014), http://www.latimes.com/nation/la-na-oregon-or7-wolf-mate-20140513-story.html?barc=0.

will continue to wander—stems from awe and a genuine curiosity with nature. Perhaps such emotions are of particular societal value.

The well-documented enthusiasm that greeted OR-7's arrival into California also demonstrates that the possibility of a wild sighting of an elusive creature, such as the wolf, can stir excitement and anticipation. By contrast, when one visits a zoo, there is an expectation of animal sightings. Enclosures have signs specifying what sort of creature lives there, and zookeepers often conduct regular interactive programs with the animals. In the wild, it is quite different. The possibility of coming across a wild grizzly bear or hearing the howls of a pack of wolves can be its own source of excitement, driven by both awe, as noted above, and fear. In fact, this "wildness," which can be "understood as unpredictability or freedom from human control," imparts an "aura [that] attracts and inspires us" and can "make[ ] us care about wild places and wild creatures."[188] These "charismatic megafauna," in a way, "give the untamed wilderness its lure," and the fact that humans cannot fully control such interactions makes these "large, dramatic species" even more intriguing.[189] Restoring a species to greater portions of its historical range widens the opportunities to see that animal in its wild habitat, and in an increasingly human-dominated landscape, these chance encounters have real value.[190]

c. Nostalgia and a Respect for History

In addition, the concept of "historical fidelity," or the notion of "preserving or restoring relevant historical properties" of a landscape, advocates using history as "a guide in conservation and restoration efforts."[191] An understanding of history is important, as evidenced by our human tendency to cling to the past as we face uncertain futures. While there may be few people today who directly experienced widespread wolf populations, many of us are quite aware of the significance of wolves in our culture and history. As noted, the "widespread distribution of wolves allowed them to be incorporated into the mythology of many different world cultures."[192] Stories of wolves are intertwined with mythological tales and linked with the more modern European control of the wild American landscape.[193] Legends of wolves escaping human capture and clinging to survival across the Great Plains in the early twentieth century contributed to

188. Doremus, *supra* note 45, at 13 (adding that this "aura" can lead the public to believe that these creatures "merit special protection," and without such wildness, "the level of human concern for other species would be reduced").

189. Richardson, *supra* note 174, at 30.

190. Relatedly, one scholar describes this value as "naturalistic/outdoor recreational value—the appreciative benefits associated with direct contact or experience with endangered wildlife in the context of activities such as camping, hunting, birdwatching, etc." Stephen R. Kellert, *Social and Perceptual Factors in Endangered Species Management*, 49 J. WILDLIFE MGMT. 528, 529 (1985).

191. J. Michael Scoville, *A Defense of Integrity as a Conservation Concept*, ETHICS & ENV'T, Fall 2016, at 79, 84–85 (2016).

192. Remet, *supra* note 11, at 93.

193. *Id.* at 94–96.

the wildness and excitement of the region.[194] These stories are so pervasive in part because wolves had such a commanding presence across the nation. Thus, it is not surprising that "the disappearance of the last and most famous wolves often seemed symbolically linked to the passing of all that had been wild and exciting in the region."[195] Without them, the world became "a less interesting place."[196] But historical fidelity does not mean that the past should be used "as a blueprint for replicating particular historical sites."[197] Instead, it acts as a check on the "hubris and incaution" in how humans "project our own desires and aspirations onto landscapes."[198] In this way, the complex history of the gray wolf and its role in "ecosystem processes and functions"[199] suggests a moment of reflection on humanity's role in its demise and potential recovery.

d. Broadening the Burdens and the Benefits

To be sure, there are many opponents of wolf dispersal who are armed with a litany of arguments to counter these justifications. As noted above, opposition to wolves often stems from concerns about livestock predation and general fear of wolves. As one opponent to wolf reintroduction to the northern Rockies stated in 1991, "The biggest support for wolves is from people who have some nostalgia for them" but who are not asked to bear the burden of direct economic hits from lost livestock.[200] The wider picture of livestock loss in the United States, however, shows that wolves are responsible for a miniscule percentage of it. For example, a U.S. Department of Agriculture Report found that wolf predation caused less than a quarter of 1 percent of all cattle losses in 2010.[201] Still, the effects of wolf depredation have been disproportionately felt in the few states where wolves have reestablished themselves.[202] In this way, there may be a valid argument for restoring wolves across more areas because, although it would likely lead to at least some increase in livestock loss, the burden would be borne by a broader segment of the population. Based on a principle of fairness, this burden-shifting can, in itself, be a justification for restoring the wolf across its historical range, but it may also lead to an unintended consequence: increased animosity towards wolves in a wider area that could threaten future conservation projects. Given the highly politicized nature of wolf management, this fairness

194. *Id.* at 96.
195. *Id.*
196. *Id.* at 96.
197. Scoville, *supra* note 191, at 84–85.
198. *Id.*
199. *See id.*
200. Lipske, *supra* note 72.
201. NAT'L AGRIC. STATS. SERV., U.S. DEP'T OF AGRIC., CATTLE DEATH LOSS 5 (2011), http://usda.mannlib.cornell.edu/usda/current/CattDeath/CattDeath-05-12-2011.pdf.
202. *See id.* at 8–9.

principle could still serve as a powerful justification for a greater respect for the wolf's historical range.[203]

Each of these principles and values should play a role in informing management decisions about the gray wolf. While the ESA has recently been understood as a "series of disjointed prohibitions,"[204] one can find legal grounding for each of these justifications in the Act's text and broad purpose. Just as constraining our focus to segmented gray wolf populations misses the bigger picture of the species as a whole, focusing on the isolated sections of the ESA distracts from the Act's more comprehensive conservation goals. It is not just about species survival in the abstract, but about recovery and about attaining "a species population and distribution sufficient to warrant delisting."[205] Read in this light, the ESA and its underlying principles advocate for a deeper consideration of the wolf's historical range.

IV. WHAT SHOULD CONSIDERATION OF THE WOLF'S HISTORICAL RANGE LOOK LIKE?

In *Humane Society*, the D.C. Circuit held that FWS must, at a minimum, give some consideration to the effects of the loss of the wolf's historical range, but it left open questions about how to define the historical range that FWS must consider and what that consideration must legally entail.[206] For the most part, FWS's ESA policy has focused on achieving mere species survival, a simplistic goal that ignores the many compelling justifications for pursuing a broader restoration of species. By contemplating the principles described above, FWS can develop a more comprehensive wolf management policy that squares with the ESA requirements and addresses the unique characteristics of the species.[207]

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203. Still, opinions about species can change. *See* Lipske, *supra* note 72 (noting that public opinions towards birds of prey have evolved over time).

204. Cheever, *supra* note 28, at 7.

205. *Id.* This comports with the ESA's definition of "conserve." *See* 16 U.S.C. § 1532(3) (2012).

206. Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585, 605–07 (D.C. Cir. 2017).

207. In *Humane Society*, the D.C. Circuit left open questions about how to define historical range. *Id.* at 606–07. From a temporal standpoint, the most sensible baseline for the wolf is likely "the range shortly before humans are thought to have caused significant range reduction." Vucetich et al., *supra* note 124, at 1387. Such a range "would represent a naturally selected (in the Darwinian sense) range size that would . . . be associated with a natural risk of extinction." *Id.*; *see also* Alejandro E. Camacho, *Going the Way of the Dodo: De-Extinction, Dualisms, and Reframing Conservation*, 92 WASH. U. L. REV. 849, 875 (2015) ("A pre-industrial baseline would be consistent with the approach relied upon in conservation biology and other natural resource management contexts, in which the ecological baseline for evaluating a North American species' historical range routinely has been at or before European settlement."). This baseline also fits nicely with some of the principles linked to moral responsibility and nostalgia. Because the efforts to eradicate wolves were so purposeful and intentional, focusing on a baseline from before these acts suggests an attempt to "undo" or perhaps take responsibility for the destructive programs of the past and return to a more natural state.

A. A Note about Taxonomy

Identifying the physical boundaries of the gray wolf's historical range is a complicated feat. Biologists disagree about the taxonomic classes of the various subspecies of wolves and where each existed.[208] A precise boundary for the gray wolf may be unnecessary, however, if biologists and wildlife managers identify significant benefits to establishing the modern gray wolf in areas historically inhabited by a different subspecies. While some would push back on introducing a non-native subspecies, such an act is not entirely unprecedented.[209] Moreover, if FWS considers the historical range broadly, and with some leeway to genetic differences, perhaps the focus can shift to the portions of the entire historical range that still seem suitable for wolf habitat.[210] There is some indication that areas of Maine and upstate New York contain wilderness that could support wolf populations, though any such approach would need to take account of species already there.[211] But there are also sections of the historical range where wolves may disperse naturally. Sections of California, Oregon, Colorado, and Utah serve

208. *See* Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,668 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17) (noting that the "taxonomic status of the wolves in the western Great Lakes region has long been debated"). Some researchers suggest that red wolves, rather than gray wolves, actually inhabited areas of the northeast. *See* Remet, *supra* note 11, at 115–17. In response to comments on taxonomy during the Yellowstone Reintroduction Program, FWS noted the disagreements among the biological community on the subject and suggested that "wolves might be better classified as types or representative groups of geographic or climatic conditions rather than distinct subspecies." Endangered and Threatened Wildlife and Plants; Establishment of a Nonessential Experimental Population of Gray Wolves in Yellowstone National Park in Wyoming, Idaho, and Montana, 59 Fed. Reg. 60,252, 60,259 (Nov. 22, 1994) (to be codified at 50 C.F.R. pt. 17); *see also* Colburn, *supra* note 170, at 25 ("The evidence is mounting that some wolf subspecies have either been lost entirely to hybridization with coyotes or were misidentified in the first place. Such research is putting FWS, a federal agency barred from justifying its decisions on aesthetic grounds, in the unenviable position of having to acknowledge doubts about its basic objectives where wolves are concerned." (citation omitted)).

209. *See* Remet, *supra* note 11, at 116–17 (noting that "when peregrine falcons were reintroduced to the Northeast in the 1980s, no living eastern peregrines existed to be reintroduced, so scientists used birds from many locations to form the reintroduced population").

210. Similarly, some scholars have argued that the definition of "range" in the ESA should refer to the areas of the "historic range that would provide suitable habitat if application of what the ESA defines as 'conservation' measures removed or mitigated the threat factors that led to the listing of a species as threatened or endangered." Carroll et al., *supra* note 13, at 398–99.

211. *See* Remet, *supra* note 11, at 115–18 (describing possible historical wolf presence in Maine and explaining that a research team from the Conservation Biology Institute determined "that a suitable habitat is present in the Adirondacks to sustain a small population of gray wolves with 'adequate prey, denning areas, and core security areas'"). Currently, New York lists the gray wolf as endangered, while Maine lists it as a "species of special concern." *List of Endangered, Threatened and Special Concern Fish & Wildlife Species of New York State*, N.Y. DEP'T OF ENVTL. CONSERVATION, https://www.dec.ny.gov/animals/7494.html (last visited May 16, 2018); *Species of Special Concern*, ME. DEP'T OF INLAND FISHERIES & WILDLIFE (Mar. 1, 2011), https://www.maine.gov/ifw/fish-wildlife/wildlife/endangered-threatened-species/special-concern.html. Neither has plans in place to promote the wolf's return.

as examples.[212] The distinctions between these areas warrant different approaches, as discussed below.

B. Addressing the Different Needs of Core and Peripheral Populations

Considering the wolf's historical range and its loss may take different forms in different contexts. For example, in areas where the wolf has maintained a significant core population, the consideration of its historical range should likely focus on what the loss of that range means for the entire species' continued survival. First, it is important to understand whether maintaining a species only in a limited area leaves it vulnerable to decimation from disease or natural disaster.[213] Generally, the smaller the population of a species and "the more restricted a species' range, the greater the risk of extinction that species faces in any given period of time."[214] Second, because wolves are particularly adaptive and seem to disperse naturally across huge distances, FWS should consider how removing protection for wolves across the peripheral areas of their historical range could create problems for the growing population of wolves in the core areas, especially in the face of climate change.[215] If wolves cannot safely disperse, will there be increased pressures within the core population that

212. After Congress stepped in to delist the gray wolf in the Rocky Mountain DPS (including Montana, Idaho, and parts of Oregon, Washington, and Utah), most of those states committed to maintaining a number of breeding pairs. However, Utah immediately passed legislation dropping the number of allowable wolves in the state to zero and began actively trying to prevent pack formation in the newly delisted zone. *See* Sarah Brown, *The Gray Wolf Stalemate: Why Utah's Wolf Management Law Threatens the Gray Wolf's Recovery Throughout Its Historical Range*, 32 UTAH ENVTL. L. REV. 155, 156 (2012); *see also* UTAH DIV. OF WILDLIFE RES., WOLF MANAGEMENT IN UTAH (2012), https://wildlife.utah.gov/pdf/fact_sheets/wolves.pdf.

213. *See* Goble, *supra* note 42, 607–08 ("The persistence of species over time thus is dependent upon colonization of emerging patches of suitable habitat. Circumscribing protected areas based on the present distribution of species thus is unlikely to capture the necessary ecological constituents into the foreseeable future. A significant number of National Wildlife Refuges, for example, are projected to be submerged by the currently projected sea-level rise attributable to climate change.").

214. Goble, *supra* note 177, at 40. Relatedly, Dale Goble has noted that peripheral populations provide the "genetic options" and that accepting the extirpation of these populations "simply puts too many eggs in one basket." Goble, *supra* note 42, at 606.

215. *See* Goble, *supra* note 42, 607–08 ("Circumscribing protected areas based on the present distribution of species thus is unlikely to capture the necessary ecological constituents into the foreseeable future. A significant number of National Wildlife Refuges, for example, are projected to be submerged by the currently projected sea-level rise attributable to climate change.").

undermine its viability?[216] FWS must already consider these issues under both DOI policy and court precedent.[217]

On the other hand, the consideration of a species' historical range plays a different and more philosophical role with respect to peripheral populations, or in parts of the historical range where the species has been extirpated. Deciding whether or not to facilitate the expansion of wolves into new areas, or even to protect them as they disperse naturally, requires reflecting on the principles described above. Wolves may have positive utilitarian and ecological effects in these new spaces, and there might be moral and emotional justifications for facilitating that movement, drawing from human fascination of nature and our desire for chance encounters. But FWS's current approach of focusing on DPSs and current range "abets a forgetfulness that silently removes the idea that the species might live there once again from discussion."[218] To be sure, FWS must at a minimum consider how the loss of the wolf's historical range factors into the species' viability and recovery. But this sort of superficial consideration fails to grapple with larger questions about what the agency's goal for species recovery should be. The principles that underlie the ESA, as outlined above, indicate that there is more at stake than merely assuring ourselves that wolves do not disappear entirely. If we truly care about chance encounters, scientific understanding, inspiration from nature, the significance of history, and the survival of peripheral populations, a more robust goal for the wolf's recovery across a greater portion of its historical range is warranted.

C. Application of These Principles and Recommendations

This new approach could take many forms and will likely include varying levels of state and federal control, but I suggest that any approach possess at least some of the following overarching characteristics. First, any plan should be flexible and adaptive towards changing circumstances. Because the wolf has retreated from the brink of extinction, FWS has more leeway to experiment with new approaches and adapt its management as needed. Second, while public opinion should not dictate these decisions, it should perhaps assume a greater role, especially when drawn from the local community. Many of the principles that justify restoring the wolf to more parts of its historical range are rooted in

216. *See* Brown, *supra* note 212, at 179 ("Utah's Wolf Management Act which requires removal of any wolf in the state, combined with Wyoming law, which does not commit to fifteen breeding pairs, could stifle the continuing function of dispersal corridors for wolves."); *cf.* Sarah A. Hendricks et al., *Re-Defining Historical Geographic Range in Species with Sparse Records: Implications for the Mexican Wolf Reintroduction Program*, 194 BIOLOGICAL CONSERVATION 48, 52 (2016) ("Defining the historical range of a taxon is critical for estimating a wide diversity of biological factors that may help inform conservation efforts, such as extinction probabilities, ecological requirements, and species interactions.").

217. *See* Defs. of Wildlife v. Norton, 258 F.3d 1136, 1145–46 (9th Cir. 2001); Final Policy on Interpretation of the Phrase "Significant Portion of its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species," 79 Fed. Reg. 37,578, 37,583 (July 1, 2014).

218. Goble, *supra* note 42, at 607.

local interaction and contact, much more so than principles that underlie the preservation of as species as a whole, which tend to be more metaphysical.[219] Finally, decisions on managing wolves should be context specific, with different approaches to areas that have different levels of wolf presence.

There is great potential for FWS to take an innovative approach through this last point. In areas of suitable habitat where wolves are unlikely to return naturally, FWS should give serious consideration to new reintroduction programs. The wolf's return to areas of its historical range is valuable in many ways, and thus, if FWS identifies suitable wolf habitat in the northeast,[220] for example, it should evaluate the feasibility of wolf reintroduction, weighing such benefits with the administrative costs.[221] Such reintroduction efforts could mirror the program in Yellowstone and Idaho more than twenty years ago, with the new wolves being classified as nonessential experimental populations under section 10(j) of the ESA.[222] This approach could "increase management flexibility and address local and [s]tate concerns,"[223] while also allowing FWS to continue to study the ecological effects of returning wolves to areas they previously inhabited. It also "represents an exciting opportunity to correct some of the damage ill-considered human actions have caused to the natural world,"[224] thus tying in nicely to some of the ethical justifications discussed in Part III.B.

In areas where the species is returning naturally but where the populations are still peripheral, however, the focus should be on ensuring that wolves receive adequate protection to facilitate their continued dispersal and repatriation. But the benefits of a broader wolf presence, as described in Part III.B, still apply, and because wolves are naturally good at dispersing and adapting to new habitats, there may be little need for a directed, proactive federal reintroduction program. Here, therefore, states have the potential to assume a more central role.

Currently, under the ESA, FWS must find that existing regulatory measures will sufficiently protect a species before it delists it,[225] and one of the purposes

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219. From the utilitarian side, justifications grounded in ecotourism and biological services will be felt much more locally, but so too will the chance encounters with wolves.

220. Some studies have already found the existence of suitable habitat in the Adirondacks to support a small population of gray wolves. *See* Remet, *supra* note 11, at 118. In the 1992 Recovery Plan for the gray wolf, FWS identified "potential gray wolf reestablishment areas in northern Wisconsin, the [Upper Peninsula] of Michigan, the Adirondack Forest Preserve of New York, a small area in eastern Maine, and a larger area of northwestern Maine and adjacent northern New Hampshire." Endangered and Threatened Wildlife and Plants; Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,675 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17).

221. Costs can include anything from programmatic expenses to loss of public support for conservation programs.

222. *See* 16 U.S.C. § 1539(j) (2012).

223. Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing this Distinct Population Segment from the Federal Endangered and Threatened Wildlife, 72 Fed. Reg. 6106, 6108 (proposed Feb. 8, 2007) (to be codified at 50 C.F.R. pt. 17).

224. Doremus, *supra* note 45, at 90. The goal of such a program could be centered on "the establishment and long-term maintenance of populations that are not only biologically viable, but as wild as possible in a tame world." *Id.*

225. *See* 16 U.S.C. § 1533(a)(1)(D).

of the ESA is to foster state cooperation in species protection.[226] Often states initiate state-level protections for endangered species in order to demonstrate their capacity to address FWS concerns.[227] With a renewed focus on the benefits of historical range recovery, FWS should examine how a state's regulatory framework supports the return of the wolf to its historical range, for example by providing protections for a sufficient minimum population or by facilitating the continued dispersal of the species across state lines. Such an approach would, hopefully, provide adequate protection for peripheral populations and can be justified by principles rooted in the historical range consideration, such as natural "wolfness" and wolves' beneficial ecological effects. At the same time, states would have greater input, furthering the federal-state cooperation goal, and the presence of wolves would appear less like an imposition from federal government than directed reintroductions would.[228]

This approach comports nicely with the principles outlined in Part III.B. In fact, allowing wolves to follow their natural tendency to disperse and seek new habitat shows respect for their "wildness" and for "the ordinary processes of evolution."[229] But this approach also encourages an important shift in the focus of species management, providing a "greater emphasis on recovery" and addressing some of the ESA's "inadequacies."[230] An emphasis on recovery can both "encourage action to increase the numbers and distribution of protected species, providing them with the population" to support long-term survival and "help convince the public of the value of biological diversity protection."[231] By taking a flexible approach based on the geographic context, supporting wolves as they disperse naturally, reintroducing wolves to places where it makes sense given the principles that underlie our conservation goals, and giving states an

226. *See id.* § 1531(a)(5).

227. After evidence of OR-7 and other wolves returning to the state, the California Fish and Game Commission added the species to the state endangered species list. *See California Fish and Game Commission Votes to Add Gray Wolf to State Endangered List*, CAL. DEP'T OF FISH & WILDLIFE (June 4, 2014), https://cdfgnews.wordpress.com/2014/06/04/california-fish-and-game-commission-votes-to-add-gray-wolf-to-state-endangered-list/.

228. This approach could be politically palatable for FWS, as grounding the analysis in the best available science and the natural dispersal of the wolf makes wolf management decisions seemingly more objective and less normative, even if the underlying justifications draw from the ESA's moral values. As an example, FWS recently withdrew a proposed "threatened" listing for the Greater Sage-Grouse in part because of a Bi-State Action Plan, which, according to FWS, presented "a documented track record of active participation and implementation by the signatory agencies, and commitments to continue implementation into the future." Because these conservation efforts were already underway and the signatory agencies represented local stakeholders, FWS determined that the threats to the greater sage-grouse had "been reduced such that listing [was] not necessary." Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule to List the Bi-State Distinct Population Segment of Greater Sage-Grouse and Designate Critical Habitat, 80 Fed. Reg. 22,828, 22,828–29 (proposed Apr. 23, 2015) (to be codified at 50 C.F.R. pt. 17).

229. Doremus, *supra* note 45, at 16–17 ("Animals are wild if they enjoy natural autonomy, that is if their natural instincts determine such basic choices as where they sleep, what they eat, and how they select a mate.").

230. Cheever, *supra* note 28, at 7.

231. *Id.*

active role in implementing policies towards peripheral populations, FWS will ensure that it provides sufficient consideration of the gray wolf's historical range.

CONCLUSION

OR-7 wandered into California around the same time that FWS promulgated its 2011 Rule delisting the gray wolf in the Western Great Lakes region. On the surface, these two events seem indicative of a successful ESA story, and on some level, they are. But, as the D.C. Circuit held in *Humane Society*, FWS's delisting of the wolf failed to give sufficient consideration both to the wolf's historical range and to the remnant populations outside of the new DPS.[232] The agency's "designate-a-DPS-and-ignore-everything-outside-a-core approach" ultimately "results in an expanding area in which the former presence of the species can be ignored."[233] While the goals of the ESA include preventing extinction, the Act also seeks to recover species. And there are undeniable principles, covering the spectrum from utilitarian to moral to intrinsic, that support a more comprehensive approach to species preservation and recovery. Understanding these principles and the history of such a lightning rod species as the gray wolf will lead to more thoughtful wildlife management decisions affecting a whole range of species.[234]

In fact, there are several other species that could benefit from a similar analysis. While none possesses all of the same characteristics as the gray wolf and some may be at different stages of recovery, the principles outlined in this Note can provide insight on how each creature's lost historical range should guide current and future management. The bald eagle, for example, presents an interesting comparison as another species that has bounced back from near extinction.[235] Still, there are estimates that, in the late eighteenth century, perhaps 75,000 eagles lived throughout the area that would become the conterminous United States, and yet when FWS delisted the species, it boasted that there were 9789 nesting pairs throughout the same area.[236] A closer consideration of the bald eagle's historical range and areas where it is still missing may be warranted for the same reasons as for the wolf and, perhaps, for additional cultural and emotional reasons.[237]

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232. Humane Soc'y of the U.S. v. Zinke, 865 F.3d 585, 603, 607 (D.C. Cir. 2017).

233. Goble, *supra* note 42, at 607.

234. *See id.* at 610 ("[T]he USFWS not only undercuts the ESA's conservation purposes, but also ignores the reasons for conserving biodiversity. Extirpation of peripheral populations is glossed as recovery. Recovery, however, is more than the prevention of extinction.").

235. After the eagle received federal protection in 1940, strict protections, captive breeding programs, reintroduction initiatives, and a ban on certain pesticides brought the bald eagle back across the lower forty-eight states, and FWS delisted it in 2007. Lawrence P. Mellinger, *Symbolic Recovery: The Bald Eagle Soars Again*, NAT. RES. & ENV'T Spring 2008, 54, 54–55.

236. *Id.*

237. Stories about bald eagles tend to create a lot of excitement. *See* Daniella Silva, *Hatch Watch! Nation Transfixed by Two Bald Eagle Eggs on Live Cam*, NBCNEWS (Dec. 30, 2016), https://www.nbcnews.com/news/us-news/hatch-watch-nation-transfixed-two-bald-eagle-eggs-live-cam-

In addition, management of the grizzly bear could similarly benefit from a stronger consideration of historical range. Like the gray wolf, the grizzly can be a ferocious predator and can stoke real fear in humans who come across it. The grizzly also once inhabited a much larger range, occurring throughout the western United States, western Canada, and central Mexico with a population of approximately fifty thousand.[238] But bounties and concerted extirpation efforts decimated the species and resulted in its listing as threatened throughout the lower forty-eight states in 1975.[239] In June 2017, FWS designated the grizzly population within the Greater Yellowstone Ecosystem as a separate DPS and delisted it, while leaving the rest of the species listed as threatened.[240] It noted that the Greater Yellowstone Ecosystem population contained approximately 695 bears and that the grizzly population in the entire lower forty-eight measured approximately 1800 bears.[241] But the species remains absent from great swaths of its historical range. In this way, the story of the grizzly seems to mirror that of the gray wolf, and a closer examination of the principles behind grizzly protection may suggest a more comprehensive view of recovery.

Finally, like the gray wolf, the Canada lynx has endured years of legal battles over its classification under the ESA and the definition of its range.[242] The lynx historically "inhabited a fairly large range including New England, the Great Lakes, the Rocky Mountains, and the Pacific Northwest," but by 1977, the species had been extirpated from or was "rare" in twenty-nine of the thirty mainland states where it once lived.[243] In 2000, despite recommendations from FWS's own biologists that the lynx be listed as threatened in the Northern

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n701346 (describing the millions of views of a webcam on a Florida eagle nest). However, biologists note that the natural tendencies of bald eagles may make these birds less suitable for reintroduction because they "form an attachment to the place where they are raised and tend to return to that location when they are ready to breed." In fact, most birds of prey are "philopatric," making them "unlikely to recolonize vacant habitats." Ted Simons et al., *Restoring the Bald Eagle*, 76 AM. SCIENTIST 252, 253 (1988).

238. Endangered and Threatened Wildlife and Plants; Removing the Greater Yellowstone Ecosystem Population of Grizzly Bears from the Federal List of Endangered and Threatened Wildlife, 82 Fed. Reg. 30,502, 30,508 (June 30, 2017) (to be codified at 50 C.F.R. pt. 17).

239. *Id.* (noting that "[t]he range and numbers of grizzly bears were reduced to less than 2 percent of their former range and numbers by the 1930s"). Grizzlies also tend to have large home ranges, with males covering over 300 square miles. *Id.* at 30,505.

240. *Id.* at 30,502. In light of the D.C. Circuit's opinion in *Humane Society*, FWS announced that it was "reviewing the [ruling's] potential implications" for the delisting of the Greater Yellowstone Ecosystem grizzly population and in fact reopened public comments on the matter. Endangered and Threatened Wildlife and Plants; Possible Effects of Court Decision on Grizzly Bear Recovery in the Conterminous United States, 82 Fed. Reg. 57,698, 57,698 (Dec. 7, 2017) (to be codified at 50 C.F.R. pt. 17). FWS ultimately affirmed its decision to delist the DPS, finding that the remainder of the population outside the DPS would remain protected as a threatened species. Endangered and Threatened Wildlife and Plants; Review of 2017 Final Rule, Greater Yellowstone Ecosystem Grizzly Bears, 83 Fed. Reg. 18,737, 18,737 (Apr. 30, 2018) (to be codified at 50 C.F.R. pt. 17).

241. Endangered and Threatened Wildlife and Plants; Possible Effects of Court Decision on Grizzly Bear Recovery in the Conterminous United States, 82 Fed. Reg. at 57,699.

242. For an overview of the litigation surrounding the listing of the Canada lynx, see Enzler & Bruskotter, *supra* note 50, at 14–24.

243. *Id.* at 15.

Cascades and endangered in the Great Lakes, Southern Rockies, and Northeast, the agency listed the species as threatened in a newly created DPS, which included all lynx populations in the lower forty-eight states.[244] FWS based this listing on the determination that only the Northern Cascades represented a significant portion of the lynx's range. In a subsequent clarification, FWS explained that much of the lynx habitat in the contiguous United States was "of varying quality, and much of it was naturally incapable of supporting adequate densities of snowshoe hare sufficient to sustain resident lynx populations."[245] Such "marginal habitat" could not be deemed significant, FWS reasoned, if it could not support stable lynx populations.[246] This definition of "significant," while illustrative of FWS's changing approach to range delineations under the ESA, is quite circular and appears to give "the least protection to those species whose habitat is under the greatest threat of destruction."[247]

Each of these species has faced and continues to face unique challenges to recovery, and just like the wolf, each can benefit from FWS and states giving more robust consideration to its history and historical range. But while this Note provides recommendations for continued protection of wolves, guided by identified principles, I do not mean to suggest that delisting the wolf or any other species is necessarily a negative act. Rather, when it is appropriate, it should be a celebrated accomplishment. I also do not dispute FWS's position that the ESA does not require the restoration of the wolf across its entire historical range, but such a "defense obscures the concern."[248] Few would honestly suggest that wolves belong in areas with dense human populations, and few wolves would be interested in such an arrangement. However, it is imperative that any species management decision is informed by the principles that underlie the ESA and our broader conservation goals for that species. Given the wolf's adaptability and successful recovery when human-caused mortality is mitigated, these principles suggest a deeper consideration of the wolf's vast historical range.

244. *See id.* at 20; *see also* Endangered and Threatened Wildlife and Plants; Clarification of Significant Portion of the Range for the Contiguous United States Distinct Population Segment of the Canada Lynx, 72 Fed. Reg. 1186, 1186, 1189 (Jan. 10, 2007) (to be codified at 50 C.F.R. pt. 17).

245. Endangered and Threatened Wildlife and Plants; Clarification of Significant Portion of the Range for the Contiguous United States Distinct Population Segment of the Canada Lynx, 72 Fed. Reg. at 1189.

246. *Id.*

247. Enzler & Bruskotter, *supra* note 50, at 24.

248. Bruskotter et al., *supra* note 5, at 404.