HUMANE SOCIETY OF THE UNITED STATES V. ZINKE (D.C. CIR. 2017): SHIFTING BASELINES IN THE ENDANGERED SPECIES ACT

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Introduction

The gray wolf embodies the evolution of wildlife management perspectives over the last century. Gray wolves were largely extirpated from the lower forty-eight states after Congress authorized eradication of wolves and other predators in the early twentieth century.[1] Only a few decades later, though, wolves became one of the first species protected under a new law to protect at-risk wildlife.[2] Following reintroduction programs and other conservation measures, the U.S. Fish and Wildlife Service ("the Service") sought to delist populations of gray wolves by the early twenty-first century.[3]

Throughout this history, wolves have stirred controversy on the American landscape. Where some see a species that plays a vital role in ecosystems by keeping herds of ungulates in check and protecting vegetation, others see a villain standing in the way of progress and threatening development and livestock. States and environmental groups have intervened to compensate ranchers for lost livestock in an effort to change the politics of the species, but wolves remain contentious.[4]

A recent focus of that continued controversy is whether or not wolves have sufficiently recovered to merit removal from the list of endangered species. The D.C. Circuit recently held in *Humane Society of the United States v. Zinke*[5] that the Service failed to adequately consider two aspects of the problem in the removal of Endangered Species Act ("ESA") protections for Western Great Lakes gray wolves.

In 2011, the Service promulgated a rule both to designate the Western Great Lakes gray wolf as a "distinct population segment" ("segment") and to delist that new segment. Although the court held that it was reasonable for the Service to concurrently designate and delist a segment, the Service acted arbitrarily when it did not properly consider the effects of delisting on the remain-

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1. *See* William J. Ripple & Robert L. Beschta, *Linking Wolves and Plants: Aldo Leopold on Trophic Cascades*, 55 BioScience 613, 614 (2005).
2. *See* Endangered Species, 32 Fed. Reg. 4001, 4001 (Mar. 11, 1967).
3. *See* Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17).
4. *See* Gloria Dickie, *When Cattle Go Missing in Wolf Territory, Who Should Pay the Price?*, High Country News (July 23, 2018), https://perma.cc/WQ5B-N2KW.
5. 865 F.3d 585 (D.C. Cir. 2017).

ing gray wolf population or impacts from the loss of wolves' historic range. The court admonished the Service that the "Service's power is to designate genuinely discrete population segments; it is not to delist an already-protected species by balkanization."[6] Thus, the court affirmed the district court decision and vacated the gray wolf delisting.

This decision creates an entirely new *Chevron* question[7] on the definition of historic range that could allow an administration to use shifting baselines to bias the analysis of endangered species listing and delisting decisions. The D.C. Circuit ruled that the Service's interpretation of the word "range" in the ESA term "significant portion of its range" to mean "current range"—rather than "historic range"—was permissible under *Chevron*.[8] However, the court held that the Service's failure to consider the loss of historic range as a factor affecting the gray wolf was arbitrary and capricious.[9]

The court then indicated that the Service would have to decide "the appropriate timeframe for measuring a species' historical range" on remand and gave possibilities of "the enactment of the 1973 Endangered Species Act, the enactment of its predecessor statutes in 1966 and 1969, the Nation's founding, or some other date."[10] Allowing the Service to choose the historic baseline—presumably with deference to the selection—would allow each administration to alter which species merit ESA protection by choosing whether or not to include different scopes of historic habitat loss, including potentially excluding the very harms that Congress was concerned with at the time of the ESA's passage.

This decision provides legal cover to the ecological problem of "shifting baselines" where subsequent generations do not adequately perceive prior environmental impacts, which results in continuing environmental degradation over time. This concern is particularly strong for species, such as wolves or grizzlies, that were locally, regionally, or nationally extirpated prior to passage of the ESA.[11] Along with other recent cases applying a *Chevron* approach to the ESA,

6. *Id.* at 603.

7. *See* Chevron v. Nat. Res. Def. Council, 467 U.S. 837, 842–43 (1984). In this analysis, a court first asks if "Congress has directly spoken to the precise question at issue," *id.* at 842, and if not, "whether the agency's answer is based on a permissible construction of the statute," *id.* at 843.

8. *Humane Soc'y*, 865 F.3d at 603; *see also Chevron*, 467 U.S. at 842–43.

9. *Humane Soc'y*, 865 F.3d at 606. The failure of an agency to consider an "important aspect of the problem" renders a rulemaking arbitrary and capricious under the Administrative Procedure Act. *See* Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

10. *Humane Soc'y*, 865 F.3d at 607.

11. *See, e.g.*, Defs. of Wildlife v. Zinke, 849 F.3d 1077, 1080 (D.C. Cir. 2017) ("The Northern Rocky Mountain gray wolf had by the 1930s been extirpated from Montana, Idaho, and Wyoming by western settlers who aggressively poisoned, trapped, and shot them.").

this decision opens the door for present or future administrations to weaken the ESA.

I. Gray Wolves and the ESA

This section outlines litigation of gray wolf protection under the ESA. Historic estimates put the population of wolves in the lower forty-eight at 188,000 in 1750.[12] In the nineteenth and twentieth centuries, the government and private interests targeted wolves through predator control programs.[13] By the 1930s, wolves had been extirpated in most of the contiguous states.[14] Following a shift away from predator control, the government began protecting wolves under a precursor to the ESA in 1967.[15] Today, gray wolves in the lower forty-eight number approximately 5,500.[16]

A passage in noted conservationist Aldo Leopold's *A Sand County Almanac* captures the shifting perspectives on wolves in twentieth century conservation.[17] During the era of predator control, Leopold encountered a wolf pack in the Southwest and had "never heard of passing up a chance to kill a wolf."[18] After Leopold and his companions decimated the pack, Leopold saw a "fierce green fire" dying in the eyes of an old wolf.[19] The green fire becomes an indelible symbol in Leopold's directive to recognize the interconnectedness of ecosystems, including the role that predators like wolves play in maintaining healthy herds of game species and preventing overgrazing of foliage.[20]

In 1978, the Service clarified the listing of gray wolves to protect them throughout the lower forty-eight as endangered, except in Minnesota, where they were listed as threatened.[21] The Service noted that although the gray wolf's historic range "included most of Mexico and the 48 conterminous States of the United States" that by 1978 the species occurred "in only a small fraction of this range, and is very rare in most places where it does exist" with an estimated

12. *See* Ripple & Beschta, *supra* note 1, at 614.
13. *See id.*
14. *See id.*
15. *See* Endangered Species, 32 Fed. Reg. 4001, 4001 (Mar. 11, 1967) (listing "Timber Wolf—*Canis lupus lycaon*" and "Red Wolf—*Canis niger*" under the Endangered Species Preservation Act of 1966).
16. *Gray Wolf (*Canis lupus*), Current Population in the United States*, Fish & Wildlife Serv. (Oct. 15, 2018), https://perma.cc/P6VC-L96J.
17. *See* Aldo Leopold, A Sand County Almanac 138–41 (1966).
18. *Id.* at 138.
19. *Id.*
20. *Id.* at 139–41. The phenomenon whereby predators influence vegetation is now known as a trophic cascade. *See* Ripple & Beschta, *supra* note 1, at 618.
21. *See* Reclassification of the Gray Wolf in the United States and Mexico, with Determination of Critical Habitat in Michigan and Minnesota, 43 Fed. Reg. 9607, 9612 (Mar. 9, 1978). Changes to the scientific taxonomic classification of wolves, such as whether or not to consider different populations as subspecies, complicate the listing history of the gray wolf.

population of fewer than 200.[22] However, the listing protected the species throughout its historic range throughout the lower forty-eight rather than the then-current range in 1978.

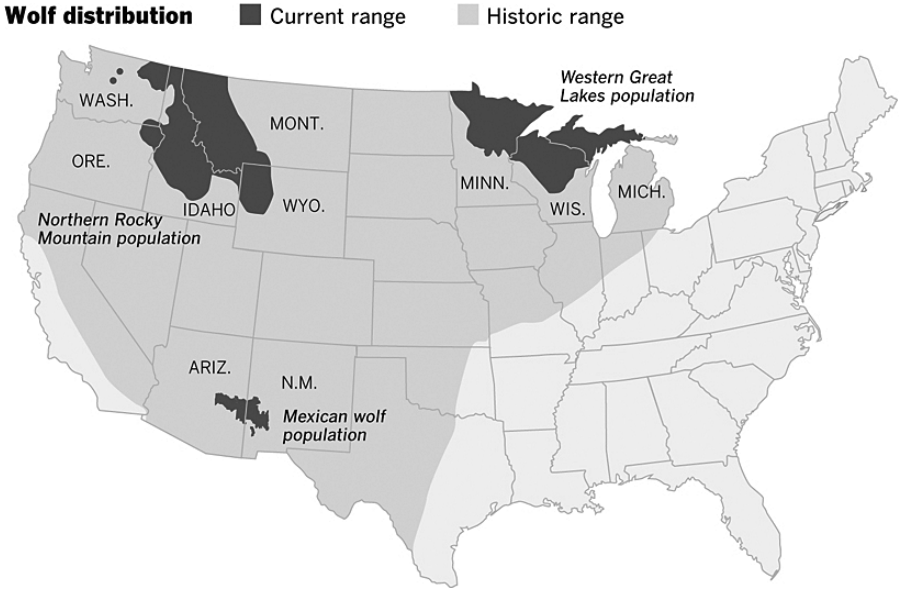

Figure 1: Historic gray wolf range and gray wolf and Mexican wolf distribution as of 2013.[23]

Two aspects of the ESA have particular relevance to gray wolves. First, the ESA defines an endangered species as one "in danger of extinction throughout all or a significant portion of its range."[24] The ESA does not define the phrase "significant portion of its range." The lack of a definition for range creates the question of whether or not the ESA refers to the extinction risk of a species across its current range or whether it refers to the extinction risk across the historical range. Furthermore, in analyzing a historic range, what baseline should the Service use? The answers to these questions have the potential to impact whether or not a species meets the definitions of threatened or endangered in the ESA.

Second, the ESA defines "species" to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species."[25] Con-

22. *Id.* at 9610.
23. Lorena Iniguez Elebee, *Gray Wolves' History and Recovery*, L.A. Times (Apr. 26, 2013), https://perma.cc/3889-FWFF.
24. 16 U.S.C. § 1532(6) (2012); *see also* 16 U.S.C. § 1532(20) (2012) (defining a threatened species as "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.").
25. 16 U.S.C. § 1532(16) (2012).

gress did not define the phrase "distinct population segment" when it added this category to the ESA in 1978.[26] Unlike the terms "species" or "subspecies," the term "distinct population segment" does not have a scientific definition. Thus, the Service's interpretation of this phrase and how the Service applies that interpretation to the designation of individual segments also has the potential to determine if species merit ESA protections.

A. The 2003 Downlisting Rule and Subsequent Delisting Attempts

In 2003, the Service promulgated a rule to split the gray wolf listing into three separate segments and to downlist two of these segments from endangered to threatened.[27] The Service based this decision on the then "current status of" the species even though "large portions of the historic range, including potentially still-suitable habitat within the [segments, were] not currently occupied by gray wolves."[28] The Service concluded that the gray wolf was "not in danger of extinction in any significant portion of the range of the species within" either of two segments and that "progress toward recovery" merited a change in listing status from endangered to threatened.[29]

District courts in Oregon and Vermont both held that this rule did not comply with the ESA and the Service's segment policy.[30] In so doing, each court examined how the Service conducted the analysis of the gray wolf's extinction risk across a significant portion of its range, including the agency's interpretation of that statutory phrase. The Oregon court ruled that Congress had not spoken directly to the meaning of "significant portion of its range."[31] Next, the court ruled that the Service's interpretation was contrary to Ninth Circuit precedent since "ruling out all other portions of the wolf's range because

26. *See* Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, § 2, 92 Stat. 3751, 3752 (1978).

27. Final Rule to Reclassify and Remove the Gray Wolf from the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States, 68 Fed. Reg. 15,804, 15,804 (Apr. 1, 2003).

28. *Id.* at 15,857.

29. *Id.*

30. *See* Defs. of Wildlife v. Sec'y of the Dep't of the Interior, 354 F. Supp. 2d 1156 (D. Or. 2005); Nat'l Wildlife Fed'n v. Norton, 386 F. Supp. 2d 553 (D. Vt. 2005). Because the ESA does not define the term "distinct population segment," the Service and the National Marine Fisheries Service adopted a policy in 1996 to clarify the term and provide a consistent application. *See* Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722, 4722 (Feb. 7, 1996). Under the policy, the agencies consider the discreteness, significance, and conservation status of a population to determine if it qualifies as a distinct population segment. *See id.* at 4725.

31. *Defs. of Wildlife v. Sec'y*, 354 F. Supp. 2d at 1164 (citing Defs. of Wildlife v. Norton, 258 F.3d 1136, 1141 (9th Cir. 2001)); *accord Nat'l Wildlife Fed'n*, 386 F. Supp. 2d at 565. This is the analysis at *Chevron* Step One. *See* Chevron v. Nat. Res. Def. Council, 467 U.S. 837, 842 (1984).

a core population ensures the viability of a" segment would render "the phrase significant portion of its range superfluous."[32] In other words, by focusing on just one core population in each segment, the Service improperly rendered the rest of the historic range "insignificant."[33]

The Oregon court also ruled that the Service's interpretation was contrary to congressional intent.[34] Noting that committee reports described the inclusion of the phrase "significant portion of its range" as a "significant shift" for the ESA, the court held that Congress intended "to protect species in '*any* portion of its range.'"[35] The Vermont court adopted a similar reasoning to the Oregon decision to hold that range could not mean current range.[36] That court held that the Service's conclusion was "contrary to the plain meaning of the ESA phrase 'significant portion of its range.'"[37]

Following these decisions, the Service continued efforts to delist gray wolves in the Midwest. The Service promulgated a rule in 2007 to designate and delist a Western Great Lakes segment[38] that was quickly vacated.[39] In that case, a D.C. district court held that the agency's interpretation of the phrase "distinct population segment" to allow the Service to simultaneously designate and delist a segment did not merit deference because the Service relied on a "plain meaning" argument to interpret an ambiguous portion of a statute.[40] A 2009 attempt to address that issue on remand in a new delisting rule[41] was

32. *Defs. of Wildlife v. Sec'y*, 354 F. Supp. 2d at 1168 (quoting *Defs. of Wildlife v. Norton*, 258 F.3d at 1142) (alterations omitted). The court conducted this analysis at *Chevron* Step Two because the phrase "significant portion of its range" in the statute was ambiguous. *See Chevron*, 467 U.S. at 843.

33. *Id. But see* Greater Yellowstone Coal., Inc. v. Servheen, 672 F. Supp. 2d 1105, 1126 (D. Mont. 2009) (deferring to the Service's interpretation of "significant portion of its range" in a 2007 Yellowstone grizzly delisting rule because the Service provided a reasonable explanation for why it did not consider areas of the species' unoccupied historic range).

34. *Defs. of Wildlife v. Sec'y*, 354 F. Supp. 2d at 1168.

35. *Id.* at 1168 (emphasis in original) (quoting *Defs. of Wildlife v. Norton*, 258 F.3d at 1142).

36. *See Nat'l Wildlife Fed'n*, 386 F. Supp. 2d at 566 (citing *Defs. of Wildlife v. Sec'y*, 354 F. Supp. 2d at 1166).

37. *Id.*

38. *See* 72 Fed. Reg. 6052, 6052 (Feb. 8, 2007).

39. *See* Humane Soc'y of the U.S. v. Kempthorne, 579 F. Supp. 2d 7, 9 (D.D.C. 2008).

40. *Id.* at 19 (citing Peter Pan Bus Lines, Inc. v. Fed. Motor Carrier Safety Admin., 471 F.3d 1350, 1354 (D.C. Cir. 2006)). This case involved the application of an administrative law doctrine sometimes called "*Chevron* Step One-and-a-Half" where a reviewing court—typically the D.C. Circuit—does not proceed to *Chevron* Step Two for an ambiguous statute unless the agency recognized that the statute was ambiguous. *See* Daniel J. Hemel & Aaron L. Nielson, Chevron *Step One-and-a-Half* 2 (U. Chi. Pub. Law & Legal Theory, Working Paper No. 602, 2016). In other words, a court will not afford *Chevron* Step Two deference to an agency that makes only a *Chevron* Step One argument. *See id.*

41. *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, 15,075 (Apr. 2, 2009) (to be codified at 50 C.F.R. pt. 17).

vacated in a settlement for a failure of the Service to do required notice-and-comment procedures in the rulemaking process.[42]

B. The 2011 Delisting Rule and 2014 District Court Decision

In 2011, the Service promulgated another rule to simultaneously designate a Western Great Lakes gray wolf segment and delist that segment.[43] According to the Service's estimate, the population of gray wolves in Michigan and Wisconsin was approximately 1,469 and the population in Minnesota was nearly 3,000.[44] This number exceeded the numerical population goal for Minnesota and the goal to establish a second population outside Minnesota in the 1992 wolf recovery plan.[45] However, environmental groups challenged this decision in court, and three years after the Service issued this rule, a D.C. district court vacated the rule and reinstated protections for the gray wolf.[46]

42. *See* Humane Soc'y of the U.S. v. Salazar, No. 09-1092, Docket Entry No. 27 (D.D.C. July 2, 2009).

43. *See* Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17).

44. *Id.* at 81,676–77.

45. *Id.* at 81,675. As the rule notes, this number was a population goal and not a criterion for delisting. *See id.* This distinction is meaningful because the ESA requires recovery plan criteria to be objective, measurable criteria that result in species delisting if met. *See* 16 U.S.C. § 1533(f)(1)(B)(ii) (2012).

46. Humane Soc'y of the U.S. v. Jewell, 76 F. Supp. 3d 69, 137–38 (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).

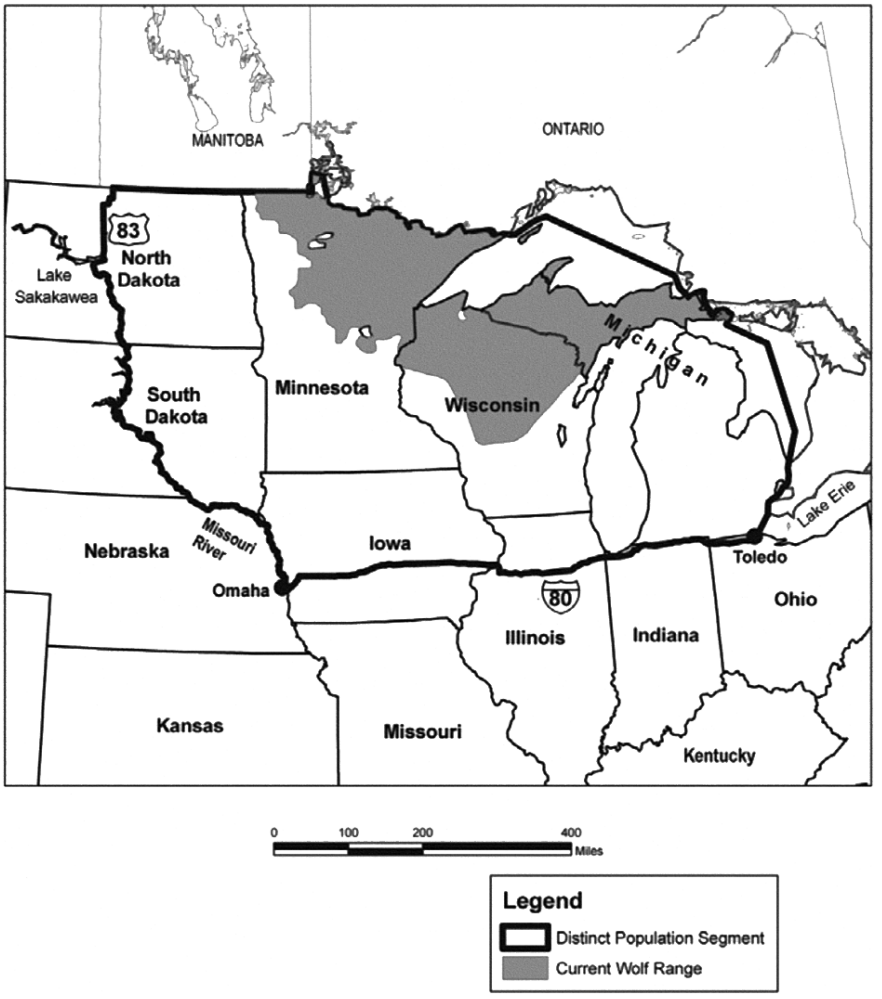

Figure 2: Map of wolf range and segment boundary in 2011 delisting rule.[47]

First, the district court held that the ESA did not permit the designation of a segment for the purposes of delisting and that the ESA did not permit the Service to carve up segments out of already listed species.[48] The court described a "one-way ratchet" theory that the ESA only allows the designation of a segment to increase protection for—not to downlist or delist a portion of—a species.[49] Thus, the district court held that although the relevant section of the

47. Revising the Listing of the Gray Wolf (canis lupus) in the Western Great Lakes, 76 Fed. Reg. at 81,671.

48. *See Humane Soc'y*, 76 F. Supp. 3d at 113 ("[T]his interpretation is entitled to no deference under *Chevron* step two.").

49. *Id.* at 112.

ESA was ambiguous, the Service's interpretation was impermissible and did not merit deference.[50]

Second, the district court held that the Service's conclusion ran counter to the evidence in the record.[51] Among other deficiencies, the Service failed "to explain why territory, which is part of a species' historical range but no longer occupied by that species, falls outside a significant portion of the species' range."[52] Thus, although the phrase "significant portion of its range" in the ESA was ambiguous, the court did not defer to the Service's interpretation.[53]

C. The D.C. Circuit Decision

In 2017, the D.C. Circuit affirmed the district court's ruling vacating the delisting rule.[54] However, the D.C. Circuit disagreed with the district court's *Chevron* analysis.[55] Instead, the D.C. Circuit held that delisting the Western Great Lakes segment of the gray wolf population was arbitrary and capricious for failing to consider important aspects of the problem.[56]

First, the D.C. Circuit analyzed whether the ESA allowed the Service to carve out a segment from an already listed species and simultaneously delist that segment.[57] The court ruled the ESA's text was ambiguous on those questions.[58] Although the ESA requires the use of the five listing factors for listing decisions, the court ruled that the Service's power to revise listings was otherwise "unconditioned" in the statutory text.[59] In light of that ambiguity, the court accepted the Service's argument that "the listing of an animal at the species-wide level can reasonably be understood to include within it a listing of all subspecies and segments within that species."[60] Furthermore, the court looked approvingly on the Service's segment policy and an opinion by the Department of the Interior's Solicitor, both of which allowed segment designation for the purpose of delisting.[61]

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50. *See id.* at 113.
51. *Id.* at 127–28.
52. *See id.* at 129 (citing Colo. River Cutthroat Trout v. Salazar, 898 F.Supp. 2d 191, 202–03 (D.D.C. 2012); WildEarth Guardians v. Salazar, 741 F.Supp. 2d 89, 100–01 (D.D.C. 2010); Sw. Ctr. for Biological Diversity v. Norton, No. 98–934, 2002 WL 1733618, at *14 (D.D.C. July 29, 2002); Defs. of Wildlife v. Norton, 239 F.Supp. 2d 9, 21 (D.D.C. 2002), *vacated in part on other grounds*, 89 Fed. App'x 273 (D.C. Cir. 2004)).
53. *Id.* at 128–29.
54. Humane Soc'y v. Zinke, 865 F.3d 585, 615 (D.C. Cir. 2017).
55. *See id.* at 603.
56. *See id.*
57. *See id.* at 595–96.
58. *See id.* at 597.
59. *See id.* at 596.
60. *Id.* at 597.
61. *See id.* at 599. For a description of the Service's segment policy, see discussion *supra* note 30.

Second, the D.C. Circuit considered whether "range" in the ESA referred to the current or historical range of a species.[62] After considering the verb tense used with range in the ESA, the three uses of the word in the statute, and dictionary definitions, the court ruled that the meaning of "range" was ambiguous.[63] The court held that the Service's interpretation of "range" as "current range" was reasonable because threats to a species in its currently occupied geographic area are most relevant to its continued survival.[64]

Despite holding that these statutory interpretations were reasonable, and therefore granting them deference, the D.C. Circuit affirmed the district court's ruling on alternate grounds—that the Service acted arbitrarily in the specific rulemaking to delist the gray wolf segment.[65] The difference in the analysis of an agency's legal interpretation at *Chevron* Step Two and its policy as arbitrary and capricious is not always clear.[66] As the D.C. Circuit observed in this case, "[w]hile analysis of the reasonableness of agency action under *Chevron* Step Two and arbitrary and capricious review is often the same, the Venn diagram of the two inquiries is not a circle."[67] The D.C. Circuit considered whether or not the Service "failed to consider an important aspect of the problem it faces" to determine if the agency's actions were arbitrary.[68] Both the Service's segment and range analyses came up lacking.

The D.C. Circuit held that the Service failed to consider the implications of delisting the Western Great Lakes gray wolf segment for other gray wolves.[69] Indeed, after the 2011 Western Great Lakes delisting the Service determined the remnant gray wolf population was "no longer a protectable 'species'" and sought to delist all remaining gray wolves in 2013.[70] The D.C. Circuit strongly criticized this maneuver:

> The Service's power is to designate genuinely discrete population segments; it is not to delist an already-protected species by balkanization. The Service cannot circumvent the Endangered Species Act's explicit delisting standards by riving an existing listing into a recovered sub-group and a leftover group that becomes an orphan to the

62. *See id.* at 603.

63. *See id.* at 603–04.

64. *Id.* at 605.

65. *See id.* at 603, 607.

66. *See, e.g.*, Catskill Mountains Chapter of Trout Unlimited, Inc. v. EPA, 846 F.3d 492, 521–23 (2d Cir. 2017) (discussing overlap between arbitrary-and-capricious review under *State Farm* and challenges to statutory interpretation for which *Chevron* applies).

67. *Humane Soc'y*, 865 F.3d at 603, 607 (citations and quotations omitted).

68. *Id.* (citations and internal quotations omitted).

69. *See id.* at 602.

70. *See id.*

> law. Such a statutory dodge is the essence of arbitrary-and-capricious and ill-reasoned agency action.[71]

The language condemning the Service for circumventing the ESA's standards stands in stark contrast to the holding that its interpretation of the statute was reasonable.

The D.C. Circuit also held that the Service acted arbitrarily when it "wrongly omitted all consideration of lost historical range."[72] The court ruled that "an adequate evaluation of the threats confronting the survival of a species within its current range requires looking at more than just the current moment in time."[73] Thus, the Service arbitrarily ignored an important aspect of the problem when it failed to analyze the impact of lost historic range "on the survival of the gray wolves as a whole, the gray wolves remnant, or the Western Great Lakes segment."[74] In other words, although it was reasonable to interpret the term "range" to mean "current range," it would be arbitrary not to consider lost historical range as a threat to the species within that current range.

As the 2011 delisting rule made its way through the courts, the Service issued an interpretive policy through notice and comment, interpreting the statutory phrase "significant portion of its range" with the word "range" defined as current, and not historical, range.[75] In the policy, the Service used the phrase "is in danger" of extinction to argue that "to say a species 'is in danger' in an area where it no longer exists—i.e., in its historical range where it has been extirpated—is inconsistent with common usage."[76] The Service rejected the Ninth

71. *Id.* at 603.

72. *See id.* at 605.

73. *Id.* at 606.

74. *Id.* Unlike in its *Chevron* analysis, the D.C. Circuit considered the Service's 2014 range policy, issued after the 2011 gray wolf delisting, in its arbitrariness analysis. *See id.* at 605 ("The Service's Range Policy is explicit that a species may be 'endangered or threatened throughout all or a significant portion of its current range *because* [a] loss of historical range is so substantial that it undermines the viability of the species as it exists today.'") (quoting 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, 37,584 (July 1, 2014)) (emphasis added in original).

75. Final Policy on Interpretation of the Phrase "Significant Portion of Its Range," 79 Fed. Reg. at 37,583. Although the Service labeled the interpretation as a "policy" rather than a "rule," it claimed to be following proper APA procedures and indicated its intent that the interpretation be legally binding. *See id.* at 37,608. However, the D.C. Circuit did not consider the 2014 policy in determining whether the Service's interpretation of the term range was reasonable under *Chevron*. *See Humane Soc'y*, 865 F.3d at 603–05. Presumably, considering this policy would involve an impermissible post-hoc rationalization. *See* Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 50 (1983) ("It is well-established that an agency's action must be upheld, if at all, on the basis articulated by the agency itself.") (citing SEC v. Chenery, 332 U.S. 194, 196 (1947)) (additional citations omitted).

76. Final Policy on Interpretation of the Phrase "Significant Portion of Its Range," 79 Fed. Reg. at 37,608.

Circuit's earlier interpretation requiring an evaluation of lost historic range, arguing instead "that the status of lost historical range should not be separately evaluated; ultimately, it is the conservation status of the then-current range at the time of the listing determination in question that must be evaluated."[77] At the same time, though, the Range Policy acknowledged that "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."[78] The adoption of this policy has shaped subsequent species listing decisions.[79]

II. Shifting Baselines

At first blush, this decision was a victory for environmentalists to restore protection to gray wolves. However, the degree of deference the D.C. Circuit granted the Service raises new concerns about ways an administration could weaken protections for at-risk species. This section introduces the concept of shifting baselines and how they influence perceptions of endangered species.

A. Defining Shifting Baselines

The concept of shifting baselines in the natural sciences refers to the way that each subsequent generation compares ecological changes to a new—or shifting—baseline that fails to account for historical changes to a system.[80] Analysts later in time might start with a historic baseline for comparison that earlier observers would have considered an already degraded state.[81] Each new generation may consider the situation around them to be "normal," thereby allowing for lower acceptable thresholds for environmental conditions over time.[82] Researchers have identified evidence of the phenomenon in fisheries science, river water quality, climate change, and perception of species richness and extinctions.[83]

Shifting baselines may allow for a generally increased tolerance for environmental harms, a change in expectations of what is desirable, and inappropriate targets for natural resource management.[84] Failure to recognize shifting

77. *Id.* at 37,585 (citations omitted).

78. *Id.* at 37,584.

79. *See* Claire M. Horan, Comment, *Defs. of Wildlife v. Jewell*, 41 Harv. Envtl. L. Rev. 297, 310 (2017) (describing challenges to decisions under the Range Policy).

80. The first use of the phrase is typically attributed to Daniel Pauly. Daniel Pauly, *Anecdotes and the Shifting Baseline Syndrome*, 10 Trends Ecology & Evolution 430 (1995).

81. *See* Charles Sheppard, Editorial, *The Shifting Baseline Syndrome*, 30 Marine Pollution Bull. 766, 766 (1995).

82. *See* Masashi Sogal & Kevin J. Gaston, *Shifting Baseline Syndrome: Causes, Consequences, and Implications*, 16 Frontiers Ecology & Env't 222, 222–23 (2018).

83. *See id.* at 223–25.

84. *Id.* at 225–26.

baselines can present particular difficulties for management of commons resources.[85] Users of a commons may not recognize historical changes or take steps to halt or reverse that environmental change.[86]

Selection of historic baselines may provide "political cover" for regulators to "game" environmental laws.[87] Professors J.B. Ruhl and James Salzman analyzed the "no net loss" wetlands policy as an example of this concept.[88] By using 1990 as the starting baseline against which any net losses occurred, the government was able to divert attention from the 100 million acres of wetlands already lost by drawing "a line in the sand [that] triumphantly put an end to more losses and would keep it that way in perpetuity."[89] Not only that, but selecting this baseline allowed for "deceptive" claims of net gains in wetlands that actually amount to little more than "a small recoupment of wetlands lost prior to 1990."[90] Ruhl and Salzman also include climate change treaties, Clean Air Act grandfathering, endangered species jeopardy consultations, and wilderness protection as other examples of gaming with baselines.[91]

B. Shifting Baselines for Endangered Species

The Service often employs shifting baselines to shape the perception of species recovery. In the rule to delist Western Great Lakes gray wolves, the Service included a table to show population increases.[92] The table, though, begins in 1976. Thus, the Service obscures historic losses to give the impression only of population gains. Although earlier estimates exist, this chart fails to even give a sense of difference in magnitude for current and historical populations that likely numbered in the hundreds of thousands.[93] Descriptions of other species follow this same pattern. For example, the rule to delist the Yellowstone grizzly bear segment notes that the "population has tripled in size and

85. *See id.*

86. *See* Carol M. Rose, *Commons, Cognition, and Climate Change*, 32 J. LAND USE & ENVTL. L. 297, 307–08 (2017).

87. J.B. Ruhl & James Salzman, *Gaming the Past: The Theory and Practice of Historic Baselines in the Administrative State*, 64 VAND. L. REV. 1, 28 (2011).

88. *See id.* at 29.

89. *Id.* at 36–37.

90. *Id.* at 37.

91. *See id.* at 37–44.

92. Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,676 (Dec. 28, 2011) (to be codified at 50 C.F.R. pt. 17).

93. *See* Ripple & Beschta, *supra* note 1, at 614 (presenting chart of historical population estimates); Robert K. Wayne et al., *Mitochondrial DNA Variability of the Gray Wolf: Genetic Consequences of Population Decline and Habitat Fragmentation*, 6 CONSERVATION BIOLOGY 559, 566 (1992) (estimating North American gray wolf population at 200,000 in 1908).

range" compared to when the species was listed in 1975.[94] However, grizzlies are at less than three percent of their historical abundance.[95]

Shifting baselines may also affect ESA jeopardy consultations.[96] Federal agencies must consult with the Service to determine if their actions are "likely to jeopardize the continued existence of any endangered species or threatened species."[97] The consultation takes place against an "environmental baseline" that includes "the past and present impacts of all Federal, State, or private actions and other human activities in the action area."[98] Selection of a time period for comparison of these impacts can determine whether consultation finds that a federal action would jeopardize a species.[99] The selection of an environmental baseline is particularly important for consultations involving existing infrastructure, such as dams. An agency may seek a favorable historic baseline that obscures past impacts in order to protect dams from litigation targeted at removal.[100] Recently, however, the D.C. Circuit took a stricter approach to environmental baselines in a jeopardy consultation for a dam licensing. The court required considerations of project impacts on the river going back to the 1920s.[101] The outcome of the ESA jeopardy consultation pivoted on that baseline selection.

III. Shifting the Endangered Species Act

This section argues that the D.C. Circuit's opinion allows an administration to use shifting baselines to influence listing decisions through selection of a timeframe for historical range. Ruling the agency's interpretation of range impermissible under *Chevron* would have created powerful protections for species. Instead, by holding the specific delisting arbitrary, the D.C. Circuit's sweeping deference could allow future outcomes that run contrary to congressional intent at the ESA's passage. With this precedent, environmentalists must argue that the Service failed to consider either the same aspects of the delisting analysis as

94. Removing the Greater Yellowstone Ecosystem Population of Grizzly Bears from the Federal List of Endangered and Threatened Wildlife, 82 Fed. Reg. 30,502, 30,545 (June 30, 2017) (to be codified at 50 C.F.R. pt. 17).

95. *See id.* at 30,557.

96. *See* Ruhl & Salzman, *supra* note 87, at 39.

97. 16 U.S.C. § 1536(a)(2) (2012).

98. 50 C.F.R. § 402.02 (2016).

99. *See* Ruhl & Salzman, *supra* note 87, at 39.

100. For instance, the U.S. Army Corps of Engineers guidance policy for internal ESA consultations defines "environmental baseline" to include the existence of any Army Corps civil works projects, such as dams. *See* U.S. Army Corps of Engineers, ESA Guidance at 2–3 (June 11, 2013), https://perma.cc/EA2M-YCM3.

101. *See* Am. Rivers v. Fed. Energy Regulatory Comm'n, 895 F.3d 32, 46 (D.C. Cir. 2018) (requiring the consideration of "ongoing project impacts" instead of including them in the baseline).

in the gray wolf case or other arbitrary actions in order to successfully challenge listing decisions involving lost historic range. This section concludes with a brief discussion of other ways that further deference could weaken the ESA's protections.

A. Shifting Baselines and Historic Range

The D.C. Circuit held that "current range" was a permissible interpretation of "range" in the ESA.[102] But the court also ruled that a categorical failure to consider the loss of historic range made the delisting decision arbitrary and capricious.[103] The court, though, left the question of defining historical range to the agency. The court wrote that "the Service will have to grapple with predicate questions that the Service has evaded thus far," including "[e]stablishing the appropriate timeframe for measuring a species' historical range, such as the enactment of the 1973 Endangered Species Act, the enactment of its predecessor statutes in 1966 and 1969, the Nation's founding, or some other date."[104] This direction to the agency opens the door to *Chevron* deference for shifting baselines.

At the time of the gray wolf's listing in 1967 and the clarification in 1978, the species only existed in the lower forty-eight states in a small area in Minnesota with a few scattered other wolves around Lake Superior.[105] The D.C. Circuit's direction to the Service suggests that using this historical range—a small portion of the upper Midwest—would be a permissible statutory interpretation. Selecting this timeframe would result in precisely the same arbitrary approach that the court faulted the agency for because the species has only gained range since then, eliminating any analysis of historically lost range. This result would be both absurd and contrary to congressional intent in the ESA.

Congress intended for the ESA to protect, conserve, and recover species.[106] The House report accompanying the 1973 legislation noted that humans "can

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

103. *Id.*

104. *Id.* at 607–08. The other task directed to the agency was "[d]efining the physical boundaries of the relevant historical range," noting that the delisting rule variously referenced most of North America, the entire Midwest, and the entire Holarctic region as the wolf's historical range. *Id.* The answer to this question will implicate how the Service determines a distinct population segment, *see* Policy Regarding the Recognition of Distinct Vertebrate Population Segments under the Endangered Species Act, 61 Fed. Reg. 4722, 4725 (Feb. 7, 1996), differing taxonomic classifications of wolves, *see* Reclassification of the Gray Wolf in the United States and Mexico, with Determination of Critical Habitat in Michigan and Minnesota, 43 Fed. Reg. 9607, 9612 (Mar. 9, 1978), and the temporal range question.

105. *See* Reclassification of the Gray Wolf, 43 Fed. Reg. at 9608, 9610.

106. *See* 16 U.S.C. § 1531(b) (2012) (ESA purposes); 16 U.S.C. § 1532(3) (2012) (defining "conserve" to mean recovery to the point of delisting); Tennessee Valley Authority v. Hill, 437 U.S. 153, 184 (1978) ("The plain intent of Congress in enacting this statute was to halt

threaten the existence of species" by "destruction of their habitat or range," and, it called destruction of critical habitat the "most significant threat" to species.[107] The Senate report stated that the "two major causes of extinction are hunting and destruction of natural habitat."[108] Recent scientific research affirms these conclusions about habitat fragmentation and range loss as major predictors of extinction.[109] The parties in the D.C. Circuit did not argue that legislative history explained the meaning of range.[110] But this intent should be clear enough to limit permissible interpretations of historical range at *Chevron* Step Two. Use of the ESA's enactment date should not be permissible because that timeframe ignores historical losses of range which motivated Congress to enact the law in the first place.

The use of a recent date for historical range changes the analysis from a species' overall viability to an analysis of its status in a much smaller geographic space than it historically occupied.[111] Despite the D.C. Circuit's concern about delisting by "balkanization,"[112] this approach could turn "the ESA standard on its head by allowing a species to be downlisted once it had recovered over any significant portion of its current range."[113] Based on the D.C. Circuit's direc-

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and reverse the trend toward species extinction, whatever the cost."); Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or., 515 U.S. 687, 700 (1995) (describing "Congress' clear expression of the ESA's broad purpose to protect endangered and threatened wildlife").

107. H.R. Rep. No. 93-412, at 5 (1973).

108. Sen. Rep. No. 93-307, at 2 (1973).

109. *See* Kevin R. Crooks et al., *Quantification of Habitat Fragmentation Reveals Extinction Risk in Terrestrial Mammals*, 114 Proc. Nat'l Acad. Sci. 7635, 7638 (2017) ("[F]ragmentation degrades suitable habitat and increases the extinction risk of mammals globally.").

110. *See* Humane Soc'y v. Zinke, 865 F.3d 585, 604 n.8 (D.C. Cir. 2017). In a decision after the D.C. Circuit decided *Humane Soc'y*, the Ninth Circuit did consider legislative history but did not find it persuasive. *See* Ctr. for Biological Diversity v. Zinke, 900 F.3d 1053, 1065–66 (9th Cir. 2018).

111. This issue is particularly acute when the Service uses the range of a "distinct population segment" rather than an entire species. *See Humane Soc'y*, 865 F.3d at 594; Greater Yellowstone Coal. v. Servheen, 672 F. Supp. 2d 1105, 1125 n.9 (D. Mont. 2009) ("There seems to be an inherent tension between the idea of a 'distinct population segment,' which is by definition geographically limited and the requirement to consider a significant portion of the species' range."), *aff'd in part, rev'd in part*, 665 F.3d 1015 (9th Cir. 2011). The Service unconvincingly attempted to address this tension in the Range Policy. *See* 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, 37,597 (July 1, 2014).

112. *See Humane Soc'y*, 865 F.3d at 603.

113. 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, 27 (2009) (describing implications of the definitions of segment and range used in the 2003 gray wolf rule that ultimately played out in the 2011 delisting rule).

tion, the Service must merely explain the selection of a particular date for historical range to clear this bar.[114]

Scientific complexity and uncertainty may also influence a court to be deferential to historical range selection.[115] Historical impacts have expanded and contracted species' ranges over time, and natural resource managers disagree over which timeframes to use for historical reference conditions.[116] In addition, maps of historical range for a species vary due to differences in sources used, increasing uncertainty.[117] It is unclear, for instance, if gray wolves ever occupied certain parts of California and the Northwest.[118]

One objection to the emphasis on historic range is that it might be easier for the Service to rely only on more recent data. The availability of this data might steer the analysis to a more recent historical range. But this is not the requirement of the ESA. The ESA requires that the Service make listing decisions "solely on the basis of the best scientific and commercial data."[119] For species with gaps in the scientific literature, the best data might not include information on historical range. However, when the historical data is available—as in the case of gray wolves—the Service should use that information for listing and delisting decisions.

B. Impact on Listing Decisions

Range plays two roles in the decision of whether or not to list a species. At the broadest level, the ESA uses the phrase "significant portion of its range" in the definition of endangered or threatened species.[120] The current or threatened loss of range is also one of five factors that the Service must consider in making this decision.[121] How the Service defines historical range could sway future decisions of whether or not to list species or segments.

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114. This argument uses the ESA's enactment date, but the reference to "some other date," *see Humane Soc'y*, 865 F.3d at 607, implies permissible use of species listing dates in delisting rules. Jeopardy consultations sometimes use these dates for baselines. *See* Ruhl & Salzman, *supra* note 87, at 39.

115. *See* Balt. Gas and Elec. Co. v. Nat. Res. Def. Council, 462 U.S. 87, 103 (1983) ("When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential.").

116. *See* David S. Jachowski et al., *Redefining Baselines in Endangered Species Recovery*, 79 J. WILDLIFE MGMT. 3, 4–5 (2014).

117. *See* Floyd W. Weckerly, *Inconsistencies in Historical Geographic Range Maps: The Gray Wolf as Example*, 93 CAL. FISH & GAME 224, 227 (2007).

118. *See id.* at 226.

119. 16 U.S.C. § 1533(b)(1)(A) (2012).

120. 16 U.S.C. § 1532(6) (2012).

121. 16 U.S.C. § 1533(a)(1)(A) (2012).

This analysis can be particularly important for large carnivores because these species have experienced massive losses of historical range globally.[122] For example, red wolves have lost 99.7% of their historical range.[123] A baseline for historic range of 1973 or later would give the impression of gains for these species instead of simply recouping lost historic habitat.[124] The Service announced a review of the gray wolf's status in June of 2018 that may take this approach for a new delisting rule.[125]

The Service also used this justification to delist Yellowstone grizzly bears. After the D.C. Circuit ruling, the Service conducted a regulatory review to determine if the already finalized grizzly bear delisting complied with the decision, including its treatment of historical range.[126] But this review was insufficient, as a district court in Montana recently noted problematic similarities to the gray wolf delisting when the court vacated the Yellowstone grizzly bear delisting rule.[127]

Smaller species may also lose or never receive endangered species protection under this interpretation of range. The Ninth Circuit recently adopted the D.C. Circuit's holding on the interpretation of "range" as "current range" in a challenge to the decision not to list a segment of arctic grayling.[128] Unlike the D.C. Circuit, the Ninth Circuit also considered the Service's range policy[129] and prior circuit precedent interpreting "range" as "historical range."[130] Neither of

122. *See* Christopher Wolf & William J. Ripple, *Range Contractions of the World's Large Carnivores*, 4 Royal Soc'y Open Sci. 170,052, 170,055 (2017), https://perma.cc/CWW9-W6T8.

123. *See id.* A purely quantitative analysis does not tell the whole picture, though. "A species with an exceptionally large historical range may continue to enjoy healthy population levels despite the loss of a substantial amount of suitable habitat. Similarly, a species with an exceptionally small historical range may quickly become endangered after the loss of even a very small percentage of suitable habitat." Defs. of Wildlife v. Norton, 258 F.3d 1136, 1143 (9th Cir. 2001).

124. *Cf.* Ruhl & Salzman, *supra* note 87 (describing wetlands expansions deceptively as gains).

125. *See* Jes Burns, *Gray Wolves Could Lose Protections As 'Endangered' Status Reconsidered*, Or. Pub. Broadcasting (June 14, 2018), https://perma.cc/A2E6-9ZHS.

126. *See* Review of 2017 Final Rule, Greater Yellowstone Ecosystem Grizzly Bears, 83 Fed. Reg. 18,737, 18,741–42 (Apr. 30, 2018).

127. Crow Indian Tribe v. United States, 2018 WL 4568418, at *9 (D. Mont. Sept. 24, 2018) ("*Humane Society* is distinguishable only on a formalistic basis; here, as there, the cleaving of a newly designated segment from an existing listing demonstrates the Service's failure to grapple with the functional and legal impact of delisting on the listed entity.").

128. *See* Ctr. for Biological Diversity v. Zinke, 900 F.3d 1053, 1066–67 (9th Cir. 2018).

129. *Id.* at 1063. Unlike the 2011 gray wolf delisting, the decision not to list arctic grayling, *see* 79 Fed. Reg. 49,384 (Aug. 20, 2014), occurred after the Service published the range policy, *see* 79 Fed. Reg. 37,578 (July 1, 2014).

130. *Ctr. for Biological Diversity*, 900 F.3d at 1063–64 (discussing Defs. of Wildlife v. Norton, 258 F.3d 1136 (9th Cir. 2001), and Tucson Herpetological Soc'y v. Salazar, 566 F.3d 870 (9th Cir. 2009)).

the two prior Ninth Circuit cases examined held that the meaning of range was unambiguous, so the Ninth Circuit continued to *Chevron* Step Two.[131] Noting that the Service's Range Policy interpreted "range" to mean "current range" but also required an analysis of the loss of historical range, the Ninth Circuit followed the D.C. Circuit to hold that the Service's interpretation of the term was reasonable.[132] Yet, the Ninth Circuit vacated the Service's finding that the arctic grayling was not warranted for listing under the ESA on other grounds, including a failure to consider synergistic climate impacts and using a shorter timeframe for analysis of the "foreseeable future" than in a prior finding.[133]

Prior to that decision, a district court in California upheld the Service's consideration of current rather than historical range in response to a petition to list bi-state sage grouse.[134] That court, however, ruled against the Service's decision not to list bi-state sage grouse due to other deficiencies, including a ruling that the definition of "significant" in the Service's Range Policy was impermissible.[135]

In each of these cases, the reviewing court ruled against the Service on other grounds while upholding the Service's interpretation of range. But these decisions illustrate the potential for a future delisting or not-warranted for listing finding based on a historical range that obscures past impacts.

C. Weakening Endangered Species Protections

This decision is not the only way that sweeping deference in ESA interpretation could allow an administration to weaken protections for at-risk species. This past summer, the Service proposed several revisions to ESA regulations; these cover jeopardy consultations,[136] protections for threatened species,[137] and species listings.[138] Among the proposed changes is a revision to how the Service defines the term "foreseeable future" to determine if a species is likely to become endangered in the "foreseeable future"—the standard for

131. *See id.* at 1064 (citing Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 982–83 (2005)). The Oregon district court decision using Ninth Circuit precedent on range to vacate the 2003 gray wolf delisting, Defs. of Wildlife v. Sec'y, 354 F. Supp. 2d 1156 (D. Or. 2005), occurred five months before *Brand X*.

132. *See Ctr. for Biological Diversity*, 900 F.3d at 1066.

133. *Id.* at 1074–75.

134. *See* Desert Survivors v. U.S. Dep't of the Interior, 2018 WL 2215741, at *43–44 (N.D. Cal. May 15, 2018).

135. *See id.* at *45–48.

136. *See* Revisions of Regulations for Interagency Cooperation, 83 Fed. Reg. 35,178 (July 25, 2018) (to be codified at 50 C.F.R. pt. 402).

137. *See* Revisions of the Regulations for Prohibitions to Threatened Wildlife and Plants, 83 Fed. Reg. 35,174 (July 25, 2018) (to be codified at 50 C.F.R. pt. 17).

138. *See* Revision of the Regulations for Listing Species and Designating Critical Habitat, 83 Fed. Reg. 35,193 (July 25, 2018) (to be codified at 50 C.F.R. pt. 424).

whether or not a species is threatened.[139] The proposed change would limit analysis so that "the foreseeable future for a particular status determination extends only so far as predictions about the future are reliable."[140]

This seemingly innocuous reference to "reliability" portends how the Service might dismiss climate change projections. The proposal notes a range of tools that can be used to project the foreseeable future, including population viability analysis and qualitative analysis, but states that these will not determine the time period for the foreseeable future.[141] Interestingly, the Service relies on a decision that upheld a longer time horizon for foreseeable future that captured climate change impacts to polar bears.[142] Defining the time horizon for foreseeable future as something less than what the best available science can project for would run counter to a number of court decisions.[143] Indeed, courts have held that uncertainty of climate projections does not allow the Service to ignore them in listing decisions.[144] However, this policy might withstand judicial review if a court were to provide as broad a deference to permissible interpretations of foreseeable future as the D.C. Circuit gave to range. That outcome would limit the effectiveness of petitions to list species at risk due to climate change.

For fragmented species such as the gray wolf, the change in the reading of foreseeable future would compound issues from climate change. For instance, ensuring that available habitat better tracks historical range could provide the habitat connectivity to enable species to adapt to a changing climate by moving to new landscapes.[145] Looking to the past could help these species better prepare for the future.

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139. *See id.* at 35,195.

140. *Id.*

141. *Id.* ("In cases where the available data allow for quantitative modelling or projections, the time horizon presented in these analyses does not necessarily dictate what constitutes the 'foreseeable future' or set the specific threshold for determining when a species may be in danger of extinction.").

142. *Id.* (citing *In Re* Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation, 709 F.3d 1, 15–16 (D.C. Cir. 2013)).

143. *See, e.g.*, Alaska Oil & Gas Ass'n v. Ross, 2018 WL 821866, at *1 (9th Cir. Feb. 12, 2018) (accepting 85-year time horizon for Arctic subspecies of ringed seal); Alaska Oil & Gas Ass'n v. Pritzger, 840 F.3d 671, 681 (9th Cir. 2016) (accepting 50- to 100-year time horizon for bearded seal); W. Watersheds Project v. Foss, 2005 WL 2002473, at *15 (D. Idaho Aug. 19, 2005) (rejecting Service's use of a shorter time horizon for foreseeable future than that recommended by agency's experts).

144. *See, e.g.*, Ctr. for Biological Diversity v. Zinke, 900 F.3d 1053, 1072–73 (9th Cir. 2018) (rejecting the Service's arguments about uncertainty in climate change projections and use of a shorter time period for foreseeable future than in a prior analysis).

145. *See* Jenny A. Hodgson et al., *The Speed of Range Shifts in Fragmented Landscapes*, 7 PLoS One, e47141, at 7 (2012).

Conclusion

The deference granted to the Service on the definition and analysis of range in the ESA weakens the law's protections for at-risk species. The ability to obscure the loss of historic range in listing or delisting decisions provides legal cover to the ecological problem of shifting baselines. The law may further be weakened if courts apply a similar degree of deference to proposed regulatory changes to the ESA.

The purpose of the ESA is to recover species, not just isolated populations. As noted conservationist Aldo Leopold wrote, "There seems to be a tacit assumption that if grizzlies survive in Canada and Alaska, that is good enough. It is not good enough for me. . . . Relegating grizzlies to Alaska is about like relegating happiness to heaven; one may never get there."[146] Whether grizzlies or wolves, arctic grayling or sage grouse, those responsible for the implementation and interpretation of the ESA should look to this ideal to guide the protection of endangered species in the ranges they once roamed.

146. Leopold, *supra* note 17, at 277; *see also* Defs. of Wildlife v. Norton, 258 F.3d 1136, 1145 n.10 (9th Cir. 2001) (quoting same as the "maxim" guiding ESA text and application).