

Size, Biology, and Culture: Persistence as an Indicator of Significant Portions of Range under the Endangered Species Act

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The goal of the Endangered Species Act of 1973 is to conserve and recover species. The first step in species conservation and recovery is listing of the species as threatened or endangered under section 4 of the Act, a task charged to the Fish and Wildlife Service. In order for a species to be listed, its status must be evaluated with reference to five enumerated factors in section 4 across “all or a significant portion of [the species’] range.” In this phrase, “range” and “significant” have ambiguous meanings. Due to these inherent ambiguities, the phrase has been the source of much litigation and listing headaches for the Fish and Wildlife Service.

*Recently, courts have become involved in deciphering the meaning of this phrase and its application to section 4 listing decisions. In *Defenders of Wildlife v. Norton and Tucson Herpetological Society v. Salazar*, the Ninth Circuit announced its recent interpretation of the phrase. According to the court, “range” means historic, not merely current, range, and the Fish and Wildlife Service must justify any determination that a species’ historic range is insignificant. The meaning of “significant,” in contrast, is ambiguous, and its interpretation is thus left to the Fish and Wildlife Service. However, the Ninth Circuit did suggest that a species’ chance of persistence is a good indicator of the significance of portions of the species’ range, and therefore whether the species should be listed in those portions of its range.*

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This Note defends the Ninth Circuit’s opinion that “range” refers to a species’ historic range. It also argues that persistence is indeed a good indicator of significance, although it advocates the use of a more stringent conception of persistence than the Ninth Circuit suggested. It argues that any measurement of persistence intended to reflect the significance of portions of a species’ range under the Endangered Species Act must account for the three factors encompassed in the term “significant”: the size of the range, the biological importance of the range to the species, and the cultural importance of the species’ continued presence in that range.

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INTRODUCTION

The Endangered Species Act of 1973 (ESA or “the Act”), heralded as the most comprehensive endangered species legislation to date, sets up an intricate framework of provisions designed to conserve and recover species judged to require the Act’s protection. But before species may benefit from the protections of the Act, they must be listed under it.¹ Listing is governed by section 4, under which the Secretary of the Department of the Interior (“the Secretary”), who has delegated his authority to the Fish and Wildlife Service (FWS), is charged with evaluating whether a species is threatened or endangered by determining whether any one of five enumerated factors exist across “all or a significant portion of its range.”²

The phrase “all or a significant portion of its range” (“the SPR phrase” or “the phrase”),³ was not found in earlier domestic endangered species legislation.⁴ It was designed to reflect the ESA’s broad goals to conserve and recover species “whatever the cost,”⁵ and, as such, is an integral part of the ESA. Because of its prominence in section 4 listings, the SPR phrase is essential to the implementation of the ESA. Interpretation of the phrase can determine whether and where a species is listed under the ESA. However, although Congress carefully chose the language of the phrase from among

1. See 16 U.S.C. § 1533(a)(1) (2006).

2. *Id.*

3. *Id.*

4. Benjamin Fenton, *Home Builders v. Norton: The Role of International Boundaries Under the Endangered Species Act*, 32 *ECOLOGY L. Q.* 575, 587 (2005).

5. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978).

many options, ambiguity in the meaning of the phrase has baffled agencies, environmental and industry groups, and courts for years.⁶

The meaning of the phrase is ambiguous in two respects: in the meaning of “range” and the meaning of “significant.” “Range” may refer either to a species’ historic range or a species’ current range⁷; “significant” may refer either to the size of the range, the biological importance of portions of the range to the species,⁸ or the cultural importance of the species’ presence in portions of its range.

Because the phrase and its meaning are so integral to listing under the Act, FWS had to interpret the phrase soon after the ESA’s enactment in order to list species. Under this early interpretation, FWS was required to examine the historic range of any species under consideration for listing⁹ and the significance of the size and biological importance of that lost historic range to the species.¹⁰ However, FWS recently altered its interpretation of the phrase.¹¹ Under the new interpretation, “range” means the current range of the species, rather than the historic range of the species, and “significant” can encompass a variety of meanings as long as it is traced back to the statute’s goals and legislative history.¹² FWS’s new interpretation has serious implications for the listing of, and thus the protection and recovery of, species under the ESA.

The meaning of the SPR phrase has been widely litigated, especially because of its immense implications for listing decisions, and courts have taken their turn at deciphering the meaning of the phrase. Judicial interpretations vary widely, and courts have split into two opposing camps, which is not a great help to FWS in interpreting the SPR phrase.

The problems associated with the interpretation of the SPR phrase and its impacts on listing are reflected in the recent litigation regarding the listing of the flat-tailed horned lizard, which has been cycling between courts and FWS for over fifteen years. In *Defenders of Wildlife v. Norton*, the Ninth Circuit purported to lay out acceptable limits for FWS’s interpretation of the SPR phrase: “range” was to mean historic range, and “significant” was to be interpreted by the agency within the boundaries set out by the court’s view of what was reasonable under the text and goals of the ESA.¹³ In *Tucson*

6. See, e.g., *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870, 874–75 (9th Cir. 2009).

7. See, e.g., *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001) [hereinafter *Defenders Lizard*].

8. See, e.g., 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, 39–40 (2009).

9. *Id.* at 45.

10. See *id.* at 34, 47.

11. Memorandum M-37013 from the Dep’t of the Interior on The Meaning of “In Danger of Extinction Throughout All or a Significant Portion of its Range” 1 (March 16, 2007). [hereinafter *Solicitor’s Memo*].

12. See *id.* at 9–10.

13. *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870, 875–76 (9th Cir. 2009); *Defenders Lizard*, 258 F.3d 1136, 1145 (9th Cir. 2001).

Herpetological Society v. Salazar, the Ninth Circuit faced another challenge to FWS's interpretation of the SPR phrase in a listing decision regarding the lizard.¹⁴ This time, the Ninth Circuit reaffirmed its interpretation of "range" as historic range and its belief that "significant" should be left to the reasonable interpretation of the agency, within the bounds of the ESA's text and goals.¹⁵ However, the Ninth Circuit also noted that evidence of a species' persistence might be enough to prove that a species' historic range was insignificant within the meaning of the ESA.¹⁶

This Note advocates for definitions of "range" and "significant" that account for the ESA's text, goals, and legislative history. It argues that the Ninth Circuit's definition of "range" as a species' historic range takes better account of these factors than FWS's current definition of range. Additionally, this Note proposes that FWS's interpretation of "significant" should be based on the persistence rate of the species in question. However, it supports a stricter definition of "persistence" than that suggested by the Ninth Circuit: to take better account of the ESA's text, goals, and legislative history, "persistence" should be defined in regulations by FWS, and this definition should encompass notions of range size, the biological importance of parts of a species' historic range to the species, and the cultural importance of those portions of range. The clarification of the interpretation of this phrase is vital to the conservation and recovery of species, the goals of the ESA, and U.S. heritage.

Part I of this Note discusses the background and statutory structure of the ESA. Part II explores the different interpretations, by FWS, courts and Congress, of the SPR phrase. Part III chronicles the newest Ninth Circuit cases regarding the meaning of the SPR phrase, FWS's response, and the application of the SPR phrase in the context of the listing of the lizard. Part IV proposes definitions of "range" and "significant," and Part V argues that persistence, defined in this section as well, is the proper standard for measuring the "significance" of portions of a species' range because it accounts for size, biological significance, and cultural importance.

I. THE ENDANGERED SPECIES ACT: PAST AND PRESENT

The ESA was designed to address the failure of prior legislation to protect species from environmental destruction caused by humankind.¹⁷ Its goal of recovery, or conservation, was fashioned with this concern in mind, and was built into the statutory framework of the Act. The heart of the Act is the section

14. *Tucson Herpetological Soc'y*, 566 F.3d at 872, 874–75.

15. *See id.* at 876–77.

16. *See id.* at 877–79 (the Ninth Circuit did not disapprove of FWS's use of persistence to determine that portions of the lizard's historic range were insignificant, but of its use of unclear and unreliable science to infer persistence).

17. *See Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 176–77 (1978); *see also Defenders Lizard*, 258 F.3d at 1144; S. REP. NO. 93-307 (1973).

4 listing provision, which aims to protect species from endangerment and extinction.

A. Early Legislation: Inadequate Safeguards for Imperiled Species

The ESA is the most comprehensive legislation ever enacted for the preservation of endangered species.¹⁸ However, the ESA was not Congress's first foray into endangered species legislation.¹⁹ Congress passed two seminal pieces of legislation prior to 1973²⁰: the Endangered Species Preservation Act of 1966²¹ and the Endangered Species Conservation Act of 1969.²²

The Endangered Species Preservation Act of 1966 authorized the Secretary to identify species of fish and wildlife "threatened with extinction,"²³ and to acquire land "for the conservation, protection, restoration, and propagation of" those threatened species.²⁴ The Act further required that federal agencies protect species only "insofar as is practicable and consistent with the[ir] primary purposes," and it did not include a total prohibition on the taking²⁵ of endangered species.²⁶

The Endangered Species Conservation Act of 1969 "broadened federal involvement in the preservation of endangered species."²⁷ The Act addressed the taking and sale of species by imposing a ban on "the transportation and sale of wildlife taken in violation of any federal, state, or foreign law."²⁸ Further, the Act permitted the Secretary, for the first time, to list species under the Act that were "threatened with worldwide extinction."²⁹

18. *Tenn. Valley Auth.*, 437 U.S. at 180; see also John Charles Kunich, *The Fallacy of Deathbed Conservation Under the Endangered Species Act*, 24 ENVTL. L. 501, 504 (1994).

19. See *Tenn. Valley Auth.*, 437 U.S. at 174.

20. *Id.*

21. Pub. L. No. 89-669, 80 Stat. 926 (1966) (amended by Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (1973)).

22. Pub. L. No. 91-935, 83 Stat. 275 (1969) (amended by Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (1973)).

23. *Tenn. Valley Auth.*, 437 U.S. at 175; Pub. L. No. 89-669, § 1(c), 80 Stat. 926 (1966).

24. *Tenn. Valley Auth.*, 437 U.S. at 175; Pub. L. No. 89-669, § 2(a)-(c), 80 Stat. 926-27 (1966).

25. Under the ESA, the concept of take was created to ensure that species were really protected under the Act. "Take" is defined strictly as including actions in which people "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" with regard to a listed species. 16 U.S.C. § 1532(19) (2006). "Take" is generally forbidden with regard to species listed as endangered, though an exemption may be sought pursuant to the Act. *Id.* §§ 1536(e), (g), 1538(a)(1)(B), (C). "Take" of a species listed as threatened is governed by the Secretary's rules. *Id.* § 1533(d).

26. *Tenn. Valley Auth.*, 437 U.S. at 175; Pub. L. No. 89-669, § 1(b), 80 Stat. 926-27 (1966).

27. *Tenn. Valley Auth.*, 437 U.S. at 175; Pub. L. No. 91-935, 83 Stat. 275 (1969)

28. *Tenn. Valley Auth.*, 437 U.S. at 175-76; Pub. L. No. 91-935, § 7(a)-(b), 83 Stat. 279 (1969).

29. *Tenn. Valley Auth.*, 437 U.S. at 175; Pub. L. No. 91-935, § 3(a), 83 Stat. 275 (1969).

Although this previous legislation represented “the most comprehensive legislation of [its] type” at the time,³⁰ it provided only weak protections for species,³¹ and only required listing “when the entire species was in danger of extinction.”³² These laws did not succeed in halting the decline of species, and Congress recognized that more protections were needed to do so.³³

B. Renewed Dedication to Species Preservation: The Endangered Species Act of 1973

In response to the need for improved management tools to better safeguard endangered species,³⁴ Congress passed the ESA in 1973.³⁵ Congress recognized that humankind was still contributing to the extinction of other species at an advanced rate, due mainly to habitat destruction and hunting.³⁶ Further, Congress acknowledged that these species had “[a]esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people.”³⁷ Congress sought to prevent the extinction of any more species, fearing the irreversible loss of those values and benefits, which were regarded as incalculable.³⁸

With these concerns in mind, Congress fashioned a statement of the purposes of the Act: to provide “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved,” and “a program for the conservation of such endangered species and threatened species.”³⁹ At the time the ESA was passed, Congress intended to devote “whatever effort and resources were necessary to avoid further diminution of national and worldwide wildlife resources,”⁴⁰ and Congress designed the ESA “to halt and reverse the trend toward species extinction, whatever the cost.”⁴¹ Thus, Congress purposefully omitted the qualifying language found in prior endangered species legislation that limited the extent of protective actions that

30. *Tenn. Valley Auth.*, 437 U.S. at 176 (citing the *Hearings on Endangered Species before a Subcommittee of the House Committee on Merchant Marine and Fisheries*, 93rd Cong., 1st Sess., 202 (1973) (statement of Assistant Secretary of the Interior)).

31. See, e.g., *id.* at 176; *Nat'l Wildlife Fed'n v. Norton*, 386 F. Supp. 2d 553, 566 (D. Vt. 2005).

32. *Defenders of Wildlife v. Norton*, 354 F. Supp. 2d 1156, 1166 (D. Or. 2005) [hereinafter *Defenders Wolf*] (citing H.R. REP. NO. 93-412 (1973)).

33. See S. REP. NO. 93-307 (1973).

34. *Tenn. Valley Auth.*, 437 U.S. at 176.

35. S. REP. NO. 93-307 (1973).

36. *Tenn. Valley Auth.*, 437 U.S. at 179; see also 16 U.S.C. § 1531(a)(1) (2006); Kunich, *supra* note 18, at 503.

37. 16 U.S.C. § 1531(a)(3).

38. *Tenn. Valley Auth.*, 437 U.S. at 177–79.

39. 16 U.S.C. § 1531(b).

40. *Tenn. Valley Auth.*, 437 U.S. at 177 (quoting George Coggins, *Conserving Wildlife Resources: An Overview of the Endangered Species Act of 1973*, 51 N.D. L. REV. 315, 321 (1975)) (emphasis removed).

41. *Id.* at 184; *Sierra Club v. Clark*, 577 F. Supp. 783, 788 (D. Minn. 1984) (noting that Congress's aim was restoration of species threatened with extinction).

government agencies could take, instead using language that “admits of no exception.”⁴² Congress intended that imperiled species receive the highest priority.⁴³

As a result of Congress’s belief in the importance of species conservation, the ESA’s goals were far broader than the promotion of species’ mere survival.⁴⁴ The ESA directed that action be preventive, and that it be taken “sooner rather than later,” before a species had reached the brink of extinction.⁴⁵ Congress emphasized caution,⁴⁶ and the ESA was designed to give species the benefit of the doubt.⁴⁷

Congress’s findings translated into the main goal,⁴⁸ and central management standard, of the ESA: conservation, also known as recovery.⁴⁹ The ESA defines conservation, or recovery, as the “use of 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 [the Act] are no longer necessary.”⁵⁰ Conservation is the point at which a species no longer needs the management tools and methods of the ESA to survive and sustain itself.⁵¹ Thus, the central standard of the Act memorialized Congress’s intention that the ESA not be used “merely to stabilize a species, . . . [but to] . . . improve [the species’] plight.”⁵²

C. Statutory Framework

The ESA’s expansive purposes are embedded in its provisions.⁵³ The Act has four principle sections⁵⁴—sections 4, 7, 9, and 10—but, “the linchpin of the

42. *Tenn. Valley Auth.*, 473 U.S. at 173.

43. *Id.* at 185.

44. *See Fed’n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1163 (N.D. Cal. 2000) (“If a species is listed under the [ESA], the Secretary, must not merely avoid the elimination of that species, but is required to bring the species back from the brink sufficiently to obviate the need for protected status.”).

45. *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 680 (D.D.C. 1997).

46. *Tenn. Valley Auth.*, 437 U.S. at 178 (quoting H.R. REP. NO. 93-412, at 4–5 (1973) (“The institutionalization of . . . caution lies at the heart of [the ESA].”)).

47. *Babbitt*, 958 F. Supp. at 680.

48. 16 U.S.C. 1531(b) (2006).

49. *See, e.g., Nat’l Wildlife Fed’n v. Norton*, 386 F. Supp. 2d 553, 558 (D. Vt. 2005) (“[A]lthough the Act does not define ‘recovery,’ FWS has essentially defined the term to mean conservation.”); *see also* ERIC T. FREYFOGLE & DALE D. GOBLE, *WILDLIFE LAW: CASES AND MATERIALS*, 1182–83 (1st ed., 2002) (“‘Conserve’ is the central management standard in the Act . . . [N]ote that ‘conserve’ is essentially a synonym for ‘recovery.’”).

50. 16 U.S.C. § 1532(3) (“Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.”); *see also* 50 C.F.R. § 402.02 (2009).

51. 50 C.F.R. § 402.02.

52. FREYFOGLE & GOBLE, *supra* note 49, at 1183.

53. *See, e.g., Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 178 (1978).

Act is the section 4 listing process.”⁵⁵ A species must be listed under the Act in order to receive its protections.⁵⁶ Thus, listing is the first step to ensuring the recovery and conservation of a species determined to be facing the threat of extinction.

When deciding whether to list a species, FWS⁵⁷ must first determine whether it constitutes a “species” as defined under the Act, or some other unit entitled to protection under the Act.⁵⁸ Under the ESA, “species” includes “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”⁵⁹ Neither “subspecies” nor “distinct population segment” are defined in the ESA. A subspecies is defined in the scientific literature as a classification below the species category that includes “groups that may occupy the same geographic region as the species to which they belong, but are characterized by enough genetic or evolutionary difference from other members of the species so as to require separate protection.”⁶⁰

The concept of a distinct population segment (DPS), on the other hand, is not recognized in science.⁶¹ However, it has been defined jointly by FWS and the National Marine Fisheries Service in the Joint DPS Policy.⁶² Under the Joint DPS Policy, the agencies consider three elements when determining if a population is a DPS: (1) the discreteness of the population with regard to the rest of its species; (2) the significance of the population to its species; and (3) whether the population, treated as a species for the purposes of the question, would be threatened or endangered under the ESA.⁶³ The DPS classification permits the Secretary to protect populations in danger of extinction even when the species as a whole is not.⁶⁴ The DPS classification is further proof of Congress’s emphasis on species recovery and conservation, as it provides the Secretary the necessary flexibility to protect vital populations of a species in

54. See Kuehl, *supra* note 49, at 639; *Nat’l Wildlife Fed’n*, 386 F. Supp. 2d at 622.

55. Fenton, *supra* note 4, at 579.

56. *Defenders Wolf*, 354 F. Supp. 2d 1156, 1159 (D. Or. 2005); *Sw. Ctr. for Biological Diversity v. Norton*, No. 98-934, 2002 WL 1733618, at *3 (D.D.C. 2002) (“Listing of a species is a significant event, for it triggers a series of protective measures designed to restore the species to a healthy population level.”).

57. See, e.g., 16 U.S.C. § 1533(a)(1) (2006). Technically, the Secretary is responsible for listing decisions for terrestrial and freshwater aquatic species, but he has delegated this authority to FWS. *Id.* Further, the Secretary of Commerce is responsible for listing decisions for marine species. This authority has been delegated to the National Marine Fisheries Service. *Id.* § 1533(c)(1).

58. *Id.* § 1533(a)(1); Fenton, *supra* note 4, at 579.

59. 16 U.S.C. § 1532(16).

60. *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1280 (D.N.M. 2005).

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

62. *Id.*

63. *Id.* at 4725.

64. See, e.g., *id.*; see also FREYFOGLE & GOBLE, *supra* note 49, at 1182.

order to protect the species as a whole before it faces imminent danger of extinction.⁶⁵

Once the Secretary has characterized the particular wildlife as a protectable group under the ESA, the Secretary must list it as either threatened or endangered if she or he determines that one or more of the five following factors exist across “all or a significant portion of [a species’] range”: “(1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence.”⁶⁶ Listing decisions must be based only on biological criteria⁶⁷ and the “best scientific and commercial data available.”⁶⁸

II. THE ENIGMATIC “SIGNIFICANT PORTION OF ITS RANGE”

While section 4 seems simple enough, the phrase embedded in it—“significant portion of its range”—raises problems. Under section 4, the Secretary is required to determine if one of any of the five factors enumerated in that section exists across “all or a significant portion of [a species’] range.”⁶⁹ Further, the ESA’s definitions of “endangered species” and “threatened species” also contain this phrase: a species is “endangered” if it “is in danger of extinction throughout *all or a significant portion of its range*,”⁷⁰ and “threatened” if it “is likely to become an endangered species within the foreseeable future throughout *all or a significant portion of its range*.”⁷¹

However, this phrase is ambiguous⁷² and its meaning is still hotly contested.⁷³ The phrase is arguably ambiguous in two respects: in the meaning of “range” and in the meaning of “significant.”⁷⁴ “Range” could refer to either a species’ historic range, or a species’ current range.⁷⁵ “Significant” could mean geographically large or important, biologically important,⁷⁶ or culturally

65. See Policy Regarding the Recognition of Distinct Vertebrate Population Segments, 61 Fed. Reg., at 4725; FREYFOGLE & GOBLE, *supra* note 49, at 1182.

66. 16 U.S.C. § 1533(a)(1) (2006); National Wildlife Fed’n v. Norton, 386 F. Supp. 2d 553, 558 (D. Vt. 2005) (“Each factor is equally important and a finding by the Secretary that a species is negatively affected by just one of the factors warrants a non-discretionary listing.”); 50 C.F.R. § 424.11(d) (2009).

67. See H.R. REP. NO. 97-567, at 20 (1982), *reprinted in* U.S.C.C.A.N. at 2807 (1982).

68. 16 U.S.C. § 1533(b)(1)(A); 50 C.F.R. § 424.11(d).

69. 16 U.S.C. § 1533(a)(1); see also Solicitor’s Memo, *supra* note 11, at 8; *Defenders Lizard*, 258 F.3d 1136, 1137–38 (9th Cir. 2001).

70. *Id.* § 1532(6) (emphasis added).

71. *Id.* § 1532(20) (emphasis added).

72. See, e.g., *Defenders Lizard*, 258 F.3d at 1141.

73. Solicitor’s Memo, *supra* note 11, at 1.

74. See, e.g., *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1277 (D.N.M. 2005).

75. See *id.*

76. See *id.*

important. While many courts, including the Ninth Circuit in its recent decisions in *Defenders of Wildlife*⁷⁷ and *Tucson Herpetological Society*,⁷⁸ now agree that “range,” refers to historic range,⁷⁹ the meaning of “significant” remains unclear.

A. *Legislative History of the Phrase Leaves Its Meaning Unclear*

The meaning of the SPR phrase cannot be gleaned absolutely from reference to the ESA’s legislative history, a tool often used to illuminate the meaning of statutory text,⁸⁰ but this history does provide some hints. The ESA is the first piece of endangered species legislation to contain the phrase “a significant portion of its range.”⁸¹ Earlier legislation, as discussed above, directed that a species be listed if it “faced worldwide extinction,” that is, if the species as a whole faced extinction. Inclusion of the SPR phrase marked a huge shift in endangered species protection⁸²: it expanded protection of species by allowing a species to be listed if it was in danger of extinction in “any portion of its range.”⁸³ Thus, the objective of listing became “to ensure that a species doesn’t go extinct, either (1) completely extinct, so that no individuals of the species exist anymore anywhere in the world; or (2) extinct in a ‘significant portion’ of its range.”⁸⁴

The original Senate version of the ESA had the phrase written as “substantial portion of its range,” which would likely refer to the size of the range, but this language was rejected in favor of the current language.⁸⁵ This change suggests that Congress intended the phrase to refer to more than just size. Further, in spite of the problems surrounding the interpretation of this phrase, Congress has twice refused to change the language,⁸⁶ suggesting that Congress intended the phrase to have more than one static meaning. Congressional inaction does not always indicate congressional intent. However, when FWS requested that Congress change the language, Congress specifically refused to do so, even when it was already making other amendments to the Act.⁸⁷

Given the lack of specific legislative history on the SPR phrase, its meaning must be gleaned from reference to the goals of the statute. As the goals of the statute are recovery and conservation, and the statute errs on the side of the species,

77. *Defenders Lizard*, 258 F.3d at 1136.

78. *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870 (9th Cir. 2009).

79. See *infra* notes 103–116 and accompanying text.

80. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 178 (1978).

81. Fenton, *supra* note 4, at 587 (citing *Defenders Lizard*, 258 F.3d at 1136).

82. *Defenders Lizard*, 258 F.3d at 1144 (quoting H.R. REP. NO. 93-412 (1973)).

83. *Id.* (emphasis in original).

84. See *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1279 (D.N.M. 2005) (emphasis in original).

85. H.R. REP. NO. 93-412 (1973).

86. *Id.*

87. *Id.*

any interpretation of the phrase that is adopted should refer back to and reflect these goals.

B. The Fish and Wildlife Service's Historic Interpretation of the Phrase

FWS's interpretation of the phrase may also help to illuminate its meaning. FWS's interpretation of the phrase, set out in internal agency guidelines, previously required FWS to examine a species' historic range when determining whether a species was in danger of extinction "throughout . . . a significant portion of its range."⁸⁸ Prior listing decisions demonstrate that FWS interpreted the phrase to sometimes require listing in cases in which a species could no longer be found in large portions of its historic range.⁸⁹ Thus, under this interpretation "range" included a species' "historic range." FWS's interpretation also defined the term "significant" in the phrase to include a quantitative aspect, referring to a species' total historic range, and a qualitative aspect, referring to the "range's overall importance or 'impact' on the survival of the species."⁹⁰

This interpretation of the phrase is reflected in many of the listing decisions FWS made during the period in which the interpretation was in use. For example, in 1974, FWS listed four subspecies of the gray wolf.⁹¹ The gray wolf's historic range included most of the coterminous United States, but it had been "extirpated from nearly all of its historic range."⁹² FWS listed these subspecies across their historic ranges, despite FWS's acknowledgement that at least one subspecies was "probably extinct."⁹³ FWS clearly considered the gray wolf's historic range in its listing decision because FWS listed the gray wolf as endangered in all of the areas in which the gray wolf was once found, even though it no longer occurred in those areas.⁹⁴

Another prime example of FWS's interpretation of the phrase is the grizzly bear listing. The grizzly bear was once found everywhere from Mexico to the Arctic and across the United States.⁹⁵ However, in 1975, when FWS listed the grizzly bear as threatened, it had been extirpated from the lower forty-

88. See Enzler & Bruskotter, *supra* note 8, at 47.

89. See, e.g., *Greater Yellowstone Coal., Inc. v. Servheen*, No. CV 07-134-M-DWM, 2009 WL 3775085, at *5 (D. Mont. Sept. 21, 2009) (citing 40 Fed. Reg. 31,734-46 (Jun. 28, 1975) (codified at 50 C.F.R. § 17)) (grizzly bear designated a threatened species in the lower 48 states when it was no longer found in most of them, though a viable population still existed in Alaska); Enzler & Bruskotter, *supra* note 8, at 47.

90. Enzler & Bruskotter, *supra* note 8, at 47.

91. *Id.* at 25.

92. *Id.*

93. *Id.* at 25-26, 45.

94. *Id.*

95. Kuehl, *supra* note 49, at 607.

eight states and could only be found in Alaska.⁹⁶ FWS listed the grizzly as threatened across the forty-eight states because the bear had once occurred there, though it no longer did.⁹⁷

FWS believed it important to consider a species' historic range even prior to the existence of the ESA and the SPR phrase.⁹⁸ In 1967, under the Endangered Species Preservation Act of 1966, FWS listed the Florida panther as "endangered throughout its historic range."⁹⁹ Although the panther "once roamed the southeastern United States," at the time it was listed, it was thought to be extinct, and scientists now find that it had lost 95 percent of its historic range by the time of its listing.¹⁰⁰

FWS's early listing decisions demonstrate that the agency believed that consideration of a species' historic range was essential to listing under the ESA's SPR phrase, as well as to adequate species protection. However, FWS's listing approach later changed drastically, as discussed in Part III.C, *infra*.¹⁰¹

C. Courts' Interpretation of the Phrase

While FWS attempted to implement its interpretation of the SPR phrase, the ambiguity of the phrase continued to be the source of much litigation. Courts did their best to try to fill in the meaning of the phrase and hold FWS to its duty under the ESA. Currently, however, courts are split on the phrase's meaning.¹⁰²

The Ninth Circuit and the D.C. Circuit, among other courts, have held that FWS is required to first consider a species' historic range.¹⁰³ The absence of a species from its historic range alone might not trigger listing, but FWS must at least first consider it.¹⁰⁴ If FWS then decides that the historic range of a species is not "a significant portion of its range" within the meaning of the ESA, FWS must justify that decision.¹⁰⁵ FWS may not focus solely on the species' current range,¹⁰⁶ core populations¹⁰⁷, or the viability of the species as a whole.¹⁰⁸

96. *Id.* at 607–08; *see also* Greater Yellowstone Coal, Inc. v. Servheen, No. CV 07-134-M-DWM, 2009 WL 3775085, at *5 (D. Mont. Sept. 21, 2009) (citing 40 Fed. Reg. 31,734–46 (1975) (to be codified at 50 C.F.R. sec. 17)).

97. Kuehl, *supra* note 49, at 609.

98. *See* Enzler & Bruskotter, *supra* note 8, at 54.

99. *Id.*

100. *Id.* at 54–55.

101. *Id.* at 18, 27.

102. *See* *Defenders Lizard*, 258 F.3d 1136, 1145 (9th Cir. 2001); *see also* *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1277–83 (D.N.M. 2005).

103. *See, e.g.,* *Defenders Lizard*, 258 F.3d at 1145.

104. *Id.*

105. *Id.*

106. *Id.*

107. Core populations are defined as those populations the agency determines to be essential to the existence of the species as a whole. *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 21 (D.D.C. 2002) [hereinafter *Defenders Lynx*], *vacated on other grounds*, 89 Fed. Appx. 273 (D.C. Cir. 2004); *see also* *Defenders Wolf*, 354 F. Supp. 2d 1156, 1164 (D. Or. 2005).

While the species' ability to persist into the future is important to consider,¹⁰⁹ FWS cannot consider only the likelihood of the persistence of the species as a whole or a particular subsection of the species based on current range.¹¹⁰ Emphasis on these factors would render the SPR phrase superfluous, as the effect would be to list only when the entire species was in danger, which is equivalent to listing only when a species is threatened in all of its range rather than *any* of its range,¹¹¹ as required under the ESA.¹¹²

A few district courts, on the other hand, have specifically allowed consideration of the species' current range, rather than its historic range.¹¹³ These courts have stated that, while historic range may help inform FWS's opinion as to a species' status, it does not need to be considered expressly.¹¹⁴ Further, these courts allow FWS to consider core populations alone when determining the status of a species under the Act.¹¹⁵ Similarly, these courts suggest that assessment of the viability of the species as a whole is a permissible method of determining what portions of a species' range are significant.¹¹⁶

Center for Biological Diversity v. Norton, decided by the District Court of New Mexico, best represents this minority line of interpretation.¹¹⁷ In that case, an environmental group challenged FWS's decision not to list the Rio Grande Cutthroat Trout,¹¹⁸ alleging that FWS failed to consider the historic range of the species and whether portions of its historic range were "significant" within the meaning of the ESA.¹¹⁹ In deciding not to list, FWS considered only the species' current range, referring to the species' historic range only to help inform its knowledge of the species' status in its current range.¹²⁰ Further, a portion of range was only significant, according to FWS, if its loss would threaten the viability of the species as a whole.¹²¹ FWS also claimed it could

108. *Defenders Lynx*, 239 F. Supp. 2d at 21; *see also Defenders Wolf*, 354 F. Supp. 2d at 1164.

109. *Sw. Ctr. for Biological Diversity v. Norton*, No. 98-934, 2002 WL 1733618, at *17 (D.D.C. 2002).

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

111. H.R. REP. NO. 93-412 (1973) (emphasis in original).

112. *See Defenders Lizard*, 258 F.3d at 1145.

113. *See Ctr. for Biological Diversity v. U.S. Fish and Wildlife Serv.*, No. 05-cv-00305-RPM, 2007 WL 716108, at *2-3 (D. Colo. Mar. 7, 2007); *Greater Yellowstone Coal., Inc. v. Servheen*, No. CV 07-134-M-DWM, 2009 WL 3775085, at *16-17 (D. Mont. Sept. 21, 2009). *But cf.* *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1278 (D.N.M. 2005) (ostensibly following Ninth Circuit precedent in interpreting "range," but actually allowing FWS to essentially ignore historic range and only consider current range).

114. *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1278; *see also Ctr. for Biological Diversity*, 2007 WL 716108, at *2-3; *Greater Yellowstone Coal.*, 2009 WL 3775085, at *16-17.

115. *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1281-83.

116. *Id.* at 1278.

117. *See id.*

118. *Id.* at 1273.

119. *See id.* at 1274.

120. *Id.* at 1278.

121. *Id.* at 1279.

determine significance based on threats to core populations alone.¹²² For the district court, these interpretations of significance allowed FWS flexibility and discretion in listing, but did not preclude FWS from listing a species in portions of its range where threats endangered the species as a whole, so they were permissible.¹²³ For this court, it was nonsensical to list a species simply because a large portion of its habitat had disappeared; the species as a whole might still be flourishing, despite the loss of historic habitat.¹²⁴ The court held the ESA required nothing more.¹²⁵

Most courts do not agree with *Center for Biological Diversity's* interpretation of the phrase because the effect of the interpretation is to list only when an entire species is in danger, which is equivalent to listing only when a species is threatened in all of its range rather than *any* of its range.¹²⁶ The District of New Mexico recognized that its interpretation of the SPR phrase did render the phrase superfluous.¹²⁷ The court never satisfactorily addressed the issue, however; it simply admitted the fact and moved on with its reasoning, assuring the reader that a species may still be listed in a significant portion of its range if FWS determines that it is necessary to list it.¹²⁸

Likewise, the court never adequately explained why its reasoning was better than that of the Ninth Circuit.¹²⁹ Instead, it claimed only that the Ninth Circuit's method makes "raw size of the range . . . the only determinative factor," which it says would result in the listing of "virtually every non-domestic species of wildlife in North America."¹³⁰ This depiction of the Ninth Circuit's test is a gross mischaracterization and oversimplification of the Ninth Circuit's requirement that FWS consider historic range.¹³¹ The Ninth Circuit's requirement is linked to the purpose of the SPR phrase and its language. Contrary to the District Court of New Mexico's assertion, the Ninth Circuit actually refused appellants' urgings to make "raw size" of the range the only factor FWS had to consider under the phrase when listing. Also, the District Court of New Mexico's claim that the Ninth Circuit's requirement would result in needless listings because it would lead to listings based solely on loss of historic range even if the species in question is still flourishing is unfounded, and ignores the connection of the Ninth Circuit's interpretation to the ESA's text. The *Center for Biological Diversity* court's reasoning fails to address the legislative intent or history of the Act. Rather, it appears to be attempting to

122. *Id.* at 1282 ("If remaining core populations ensure the species' survival throughout its range or a significant portion thereof, then the species is not endangered.").

123. *Id.* at 1278, 1280.

124. *Id.*

125. *Id.*

126. *See, e.g., Defenders Lizard*, 258 F.3d 1136, 1141–45 (9th Cir. 2001).

127. *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1279.

128. *Id.*

129. *See id.* at 1281.

130. *Id.*

131. *See Defenders Lizard*, 258 F.3d at 1145.

establish a bright-line rule in order to save courts and FWS time. While a laudable goal, it neither fulfills the directives and purposes of the ESA nor proves very convincing.

The different court interpretations of the phrase are the result of divergent views of the ESA's goals: many courts recognize that the ESA requires more than the mere survival of the species somewhere in the United States; few courts believe that FWS is doing its job under the Act as long as some members of the species survive. These divergent views are demonstrated in the lizard's listing controversy.

III. THE LATEST SAGA IN THE INTERPRETATION OF THE SPR PHRASE: THE CONTROVERSY SURROUNDING THE FLAT-TAILED HORNED LIZARD

FWS and courts have struggled with the interpretation of the SPR phrase for years, but a recent proposed listing has reinvigorated the debate over this enigmatic phrase: that of the flat-tailed horned lizard.

A. *The Flat-Tailed Horned Lizard: Characteristics and Listing History*

1. *Characteristics of the Flat-Tailed Horned Lizard*

The flat-tailed horned lizard, *Phrynosoma mcallii*,¹³² is "a small, cryptically colored iguanid."¹³³ It has the smallest distribution of any domestic horned lizard¹³⁴; its natural habitat includes only parts of southern California, southwestern Arizona, and northern Mexico.¹³⁵ The lizard is limited to "edges of sand dunes, Aeolian sand plains, and low hills composed of fine silts." The lizard has lost 1,103,201 acres of its estimated 4,875,624-acre historic range due to human destruction,¹³⁶ a total loss of about 51 to 57 percent of its historic range.¹³⁷ Agricultural and urban development has fragmented its remaining habitat, resulting in a loss of about 21 percent of the lizard's current range.¹³⁸

132. Tucson Herpetological Soc'y v. Salazar, 566 F.3d 870, 873 (9th Cir. 2009).

133. *Id.* (quoting 50 C.F.R. § 17 (1993)).

134. Cameron W. Barrows & Michael F. Allen, *Conserving Species in Fragmented Habitats: Population Dynamics of the Flat-Tailed Horned Lizard*, *Phrynosoma MCallii*, 54 SW. NATURALIST 307, 308 (2009).

135. Tucson Herpetological Soc'y, 566 F.3d at 873.

136. *Id.*; Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule To List the Flat-Tailed Horned Lizard as Threatened, 71 Fed. Reg. 36,745, 36,749-51 (Jun. 28, 2006).

137. Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule To List the Flat-tailed Horned Lizard as Threatened, 68 Fed. Reg. 331, 332 (Jan. 3, 2003) (codified at 50 C.F.R. pt. 17)

138. Tucson Herpetological Soc'y, 566 F.3d at 873.

The species may be sensitive to fragmentation because individuals periodically move long distances and have relatively large home ranges.¹³⁹ It has the lowest reproductive potential of any domestic horned lizard, as well as the lowest reproductive output, and populations are particularly sensitive to changes in mortality and fecundity.¹⁴⁰ Finally, the lizard is vulnerable to higher rates of predation where its habitat meets suburban areas.¹⁴¹

Although population drivers are community-specific,¹⁴² the lizard's main characteristics are a "small geographic range, specialized and highly fragmented habitat, sensitivity to anthropogenic effects, narrow breadth of diet, and low rates of reproduction," which demonstrate "a potential for this species to be at risk of local and regional extinctions."¹⁴³ All of these factors must be taken into account in order to "insure the persistence of this lizard."¹⁴⁴

2. To List or Not to List: Indecisiveness Strikes Again at FWS

Recognizing the threats faced by the lizard, as well as its unique traits, FWS repeatedly considered listing the species starting in 1982.¹⁴⁵ Finally, in 1993, FWS proposed the lizard for listing, citing allegedly-documented population declines, which FWS would later claim were nonexistent, and stating that three of the five section 4 listing criteria existed.¹⁴⁶ Although the ESA requires FWS to make a final determination on the listing status of a species within one year of publication of the proposed rule,¹⁴⁷ this time period lapsed with no final decision made.¹⁴⁸ FWS made no decision regarding the

139. Barrows & Allen, *supra* note 134, at 308; Endangered and Threatened Wildlife and Plants; 68 Fed. Reg. at 333 (Jan. 3, 2003) (codified at 50 C.F.R. pt. 17).

140. Endangered and Threatened Wildlife and Plants, 68 Fed. Reg. at 334.

141. Barrows & Allen, *supra* note 134, at 308.

142. *Id.* at 310.

143. *Id.* at 308.

144. *Id.*

145. Tucson Herpetological Soc'y v. Salazar, 566 F.3d 870, 873 (9th Cir. 2009). FWS made the lizard a category 2 candidate species in 1982. *Id.* A category 2 candidate species is one which is "being considered for listing . . . , but not yet the subject of a proposed rule." 50 C.F.R. § 424.02(b) (2009). The lizard remained a category 2 species from 1982–89 because FWS believed the lizard was an appropriate candidate for listing, but did not possess enough information to support listing at the time. *Defenders Lizard*, 258 F.3d 1136, 1138 (9th Cir. 2001). In 1989, the lizard was elevated to category 1 status as a species "for which the [FWS] has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule." *Id.* (quoting Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa That Are Candidates for Listing as Endangered or Threatened Species, 61 Fed. Reg. 7596, 7597–98 (Feb. 28, 1996)).

146. *Tucson Herpetological Soc'y*, 566 F.3d at 873–74 (citing Endangered and Threatened Wildlife and Plants; Proposed Rule To List the Flat-tailed Horned Lizard as Threatened, 58 Fed. Reg. 62,624 (Nov. 29, 1993)).

147. 16 U.S.C. § 1533(b)(6)(A)(i) (2006). *But see id.* § 1533(b)(6)(B) (if FWS finds that "substantial disagreement [exists] regarding the sufficiency or accuracy of the available data relevant to the determination or revision concerned, the Secretary may extend the one-year period" up to six months to obtain more data).

148. *Defenders Lizard*, 258 F.3d at 1139.

status of the lizard until the District Court of Arizona ordered the agency to do so in 1997.¹⁴⁹

In response to the district court's order, FWS withdrew the proposed listing in 1997, claiming there was no proof of significant population declines; that threats to the lizard's habitat were less severe and large swaths of suitable habitat still existed on public land; and that a conservation agreement would further reduce what threats remained.¹⁵⁰ However, FWS's determination relied only on the evaluation of threats to the lizard on public land, ignoring the lizard's habitat on private lands,¹⁵¹ and did not address the lizard's status in "a significant portion of its range."¹⁵²

Defenders of Wildlife ("Defenders") sued to challenge FWS's withdrawal of the lizard's proposed listing.¹⁵³ The District Court granted summary judgment for FWS.¹⁵⁴ Defenders then appealed to the Ninth Circuit.¹⁵⁵

B. Defenders of Wildlife v. Norton

1. *The Case*

In *Defenders of Wildlife v. Norton*, the Ninth Circuit laid out its interpretation of the SPR phrase.¹⁵⁶ FWS had withdrawn the proposed listing of the flat-tailed horned lizard for four reasons: (1) population trend data did not indicate significant population declines; (2) the threats to the lizard's habitat had diminished since its listing had been proposed; (3) the conservation agreement between the Bureau of Land Management, FWS, and state and local agencies would further reduce threats to the lizard and its habitat; and (4) because, despite the severity of the threats to the lizard on private land, large blocks of lizard habitat still existed on public land.¹⁵⁷ The court held that FWS did not "separately consider whether the lizard is or will become extinct in 'a significant portion of its range.'"¹⁵⁸

The court first rejected FWS's conclusion that the lizard was not in danger of extinction because it remained viable on public land, because the effect was to render the SPR phrase superfluous.¹⁵⁹ FWS's interpretation assumed that "a species is in danger of extinction in 'a significant portion of its range' only if it

149. *Id.*

150. *Id.* at 1140. The Flat-tailed Horned Lizard Conservation Agreement was adopted by seven state and federal agencies. *Tucson Herpetological Soc'y*, 566 F.3d at 874.

151. *Defenders Lizard*, 258 F.3d at 1140.

152. *Id.*

153. *Id.*

154. *Id.*

155. *Id.*

156. *Id.* at 1136.

157. *Id.* at 1140.

158. *Id.*

159. *Id.* at 1141-42.

is in danger of extinction everywhere,” which impermissibly contradicted the ESA’s language, structure, and objectives.¹⁶⁰

The court also refused to adopt Defenders’ interpretation of the SPR phrase.¹⁶¹ Defenders asserted that the SPR phrase required FWS to list a species whenever it no longer inhabited a large percentage of its historic range.¹⁶² However, the court ruled that this test would be inappropriate as a bright-line rule because the loss of portions of a species’ historic range would affect different species in different ways; thus, listing under such a rule would undermine the purpose of the ESA, as it would result in listings of species that may not be endangered.¹⁶³ The ESA requires that a species be listed only when it is “in danger of extinction,” and a species might still be flourishing, even if it has lost a large percentage of its historic range.¹⁶⁴ The evaluation therefore should be species-specific.¹⁶⁵

The Ninth Circuit ultimately remanded the listing decision to FWS for further consideration, noting that the Service did not consider whether the lizard was “in danger of extinction throughout . . . a significant portion of its range” because it ignored the lizard’s habitat on private land and did not specify why the large portions of the lizard’s historic range in which it was no longer found were not significant to the survival of the lizard.¹⁶⁶ The Ninth Circuit’s holding requires a listing agency to first identify the historic range of the species at issue, and then determine if said historic range represents a significant portion of that species’ range, using significance factors to be determined by the agency.¹⁶⁷

2. *Desperate Times Apparently Call for Inadequate Measures: FWS’s Reaction to Defenders of Wildlife*

Shortly before the Ninth Circuit’s decision in *Defenders*, FWS began implementing a new interpretation of the SPR phrase, which required that FWS examine only the current range of the species at issue rather than its historic range, as the agency had previously done.¹⁶⁸ After *Defenders*, FWS sought to defend this new interpretation of “significant portion of its range” despite *Defenders’* apparent requirements to the contrary. Thus, the agency requested an opinion from the Solicitor of the Department of the Interior (“the Solicitor”) on the meaning of the phrase.¹⁶⁹

160. *Id.*

161. *Id.* at 1143.

162. *Id.*

163. *Id.*

164. *Id.* at 1145–46.

165. *Id.* at 1143.

166. *Id.*

167. *Id.*

168. *Id.* at 45.

169. Solicitor’s Memo, *supra* note 11, at 1.

The Solicitor issued his opinion¹⁷⁰ of the meaning of the phrase in the form of a memo to the Director of FWS.¹⁷¹ The Solicitor spent the bulk of this memo considering the SPR phrase within the context of the statute's language and purposes and the legislative history of the Act.¹⁷² Based on this analysis, the Solicitor agreed with the *Defenders* court that FWS could not interpret the phrase to mean that listing would only take place if "threats to the species in that area" threatened "the viability of the species as a whole."¹⁷³ This interpretation was unacceptable under the ESA because it would have the effect of only requiring listing when a species was endangered throughout all of its range, rendering the SPR phrase superfluous.¹⁷⁴ Not only would this result be contrary to the case law in many courts, but the Solicitor also asserted that it would contradict the legislative history of the Act.¹⁷⁵

However, the Solicitor ultimately concluded that Congress intended that the agencies consider only the current range of a species proposed for listing.¹⁷⁶ In reaching this conclusion, the Solicitor focused on the statutory language of the ESA surrounding the phrase.¹⁷⁷ The Solicitor reasoned that the particular section was written in present tense ("a species is endangered only if it 'is in danger of extinction'"),¹⁷⁸ so only current range needed to be considered. To be in danger of extinction "denotes a present-tense condition of being at risk of a future, undesired event," and a species cannot be "in danger" in an area from which it has already been extirpated, the Solicitor argued.¹⁷⁹ The Memo also asserted that the ESA's other finding requirements necessitated that the Secretary consider "'present' or 'threatened' (i.e., future), rather than past" conditions, such as the "destruction, modification, or curtailment" of a species' range.¹⁸⁰ Finally, the Solicitor claimed that the Ninth Circuit misquoted the relevant part of the statute, leading to an incorrect interpretation of "range" that, the Solicitor claimed, contradicted the language of the ESA.¹⁸¹ Thus, the

170. While FWS has appeared to rely upon the Solicitor's Memo as proof of the legitimacy of its interpretation, the Ninth Circuit has held that FWS must still comply with its interpretation of the phrase, as laid out in *Defenders Lizard*. See *Tucson Herpetological Soc'y v. Salazar*, 566 F.3d 870, 876 (9th Cir. 2009).

171. Solicitor's Memo, *supra* note 11, at 1.

172. *Id.*

173. *Id.* at 2.

174. *Id.*

175. *Id.*

176. *Id.* at 7.

177. *Id.*

178. *Id.*

179. *Id.* at 7-8.

180. *Id.* at 8.

181. *Id.* (the memo states that the ESA requires the Secretary "to determine if a species . . . 'is in danger of extinction throughout . . . a significant portion of its range,'" but that the Ninth Circuit "states that the Secretary must determine whether a species is 'extinct throughout . . . a significant portion of its range.'" The Ninth Circuit actually stated that "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 Secretary must at least explain her conclusion that the area in which the

Solicitor concluded that FWS need only consider the current, not the historic, range of a species when making listing decisions,¹⁸² a deviation from over twenty-five years of prior FWS listing policy under the phrase.¹⁸³

The Solicitor then went on to consider the meaning of “significant” in the phrase.¹⁸⁴ The Solicitor asserted that because “[i]t is impossible to determine . . . which meaning of ‘significant’ Congress intended,” the statute was ambiguous.¹⁸⁵ Where such ambiguity exists, the Solicitor wrote that courts should defer to the meaning given the term by FWS, as the agency charged with administering the statute.¹⁸⁶ The Solicitor then outlined the factors FWS should consider in evaluating the meaning of the term:¹⁸⁷ first, the Secretary should consider the broad purposes of the ESA,¹⁸⁸ including species conservation, which might lead the Secretary to consider the biological importance of portions of the range to the species, as well as the other values listed in the Act.¹⁸⁹ Second, the Solicitor advised the Secretary to look to legislative history to determine Congressional intent.¹⁹⁰ Third, the Solicitor recommended that the Secretary take judicial interpretations of the term into account, which included the outer limits that the Ninth Circuit appeared to set on the interpretation of the phrase in *Defenders*.¹⁹¹ Finally, the Solicitor emphasized that the Secretary should interpret the phrase in light of the “overall statutory scheme.”¹⁹²

C. Tucson Herpetological Society v. Salazar

Following *Defenders*, FWS continued its wrangling over the proposed listing of the lizard. After the Ninth Circuit reversed and remanded to the district court to order FWS to reconsider its withdrawal of the lizard’s proposed listing, the district court ordered FWS to reinstate the proposed listing and issue

species can no longer live is not a ‘significant portion of its range.’” *Defenders Lizard*, 258 F.3d 1136, 1145 (9th Cir. 2001). Although the Ninth Circuit did relate this discussion to the fact that “a species can be extinct ‘throughout . . . a significant portion of its range’” if it is no longer found in certain portions of its prior range, the Ninth Circuit’s point is essentially that the Secretary must prove the insignificance of lost portions of a species’ historic range. *Id.* Loss of large portions of range can lead a species to be “in danger of extinction throughout . . . a significant portion of its range” if those portions are significant to the species. *Id.* The Solicitor’s point is thus not well-founded.)

182. Solicitor’s Memo, *supra* note 11, at 7–8.

183. Enzler & Bruskotter, *supra* note 8, at 45.

184. Solicitor’s Memo, *supra* note 11, at 9.

185. *Id.* at 9–10.

186. *Id.* at 10.

187. *Id.*

188. *Id.*

189. *Id.* at 11.

190. *Id.*

191. *Id.*

192. *Id.* at 12–13 (internal citation omitted).

a final decision within twelve months.¹⁹³ After a 120-day comment period, FWS again withdrew the proposed listing in 2003.¹⁹⁴

1. The 2003 Withdrawal Notice and Challenge

In the withdrawal notification published in the Federal Register, FWS acknowledged that lizard habitat had been severely fragmented due to agricultural and urban development and that 51 to 57 percent of the lizard's historic range had been lost.¹⁹⁵ Nevertheless, FWS claimed that withdrawal of the lizard's proposed listing was justified because "threats to the species identified in the proposed rule [we]re not as significant as earlier believed,"¹⁹⁶ and data demonstrating a decline in lizard populations did not exist.¹⁹⁷ However, FWS also admitted in the withdrawal that "[i]nformation concerning population dynamics . . . is limited and inconclusive"; that methods of measuring population numbers had been used inconsistently over time, included "inherent error," and did not "incorporate detection probabilities;"¹⁹⁸ and that the primary measurement used to gauge population and trend data—scat counts—was unreliable.¹⁹⁹ Reliable methodologies were implemented only one year before the withdrawal was published, in 2002.²⁰⁰ FWS recognized that all of these issues "could seriously affect the validity and usefulness of data,"²⁰¹ and acknowledged that its "listing determination would be aided by further studies."²⁰² Therefore, at the time of the 2003 withdrawal, FWS had neither reliable population estimates nor any reliable data on population trends, either negative or positive.²⁰³ Further, FWS had never determined "whether populations . . . within the [Management Areas] were viable, due to a lack of population demographic and stochastic information."²⁰⁴ Despite the lack of reliable scientific data, FWS concluded that, contrary to its earlier opinion in the proposed rule, there was no evidence of a negative population trend, which FWS took to mean that the lizard was persisting.²⁰⁵ In the withdrawal notice, FWS also addressed threats to the lizard species under each of the five statutory

193. *Id.*

194. *Id.*; Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule To List the Flat-tailed Horned Lizard as Threatened, 68 Fed. Reg. 331 (Jan. 3, 2003) (codified at 50 C.F.R. pt. 17).

195. Endangered and Threatened Wildlife and Plants, 68 Fed. Reg. at 332.

196. *Id.* at 348.

197. *Id.* at 341.

198. *Id.* at 333, 38.

199. *Id.* at 332, 39.

200. *Id.* at 339.

201. *Id.* at 333.

202. *Id.* at 338.

203. *Id.* at 331 ("[D]ata necessary to demonstrate population stability are still lacking, [but] reliable demographic data showing population declines are also lacking.").

204. *Id.*

205. *Id.*

listing factors, concluding that none presented threats within a significant portion of the lizard's range.

Defenders again challenged the withdrawal,²⁰⁶ and the district court held that FWS had not adequately explained why large portions of the lizard's historic habitat were not "significant."²⁰⁷ The court ordered the Secretary to restore the lizard to its proposed listing status.²⁰⁸

2. *The 2006 Withdrawal Notice*

In 2006, after another public comment period on the reinstated proposed listing, the Secretary again withdrew the proposed listing, including in the withdrawal a quantification of the lizard's lost range and an explanation of the insignificance of the range under the ESA.²⁰⁹ FWS concluded that the lost portions of the lizard's historic range were not significant within the meaning of the ESA because it was small in size compared to the entire range, and because the lizard had been able to persist for almost a century since the loss of the range.²¹⁰ Although FWS's definition of persistence is unclear in this context, FWS asserted that "more than 25 generations of . . . lizards have come and gone since most of the habitat conversion," suggesting that "the species will continue to persist into the foreseeable future despite the loss of historical habitat."²¹¹ Further, FWS concluded that study results indicating that "no large decline in population size has occurred between 2003 and 2005" justified the determination that there was no evidence of a negative trend in lizard population since the loss of much of its historic range.²¹² Therefore, FWS concluded that "the lost habitat is not significant because the species has persisted . . . , the species remains viable, . . . and there were no particular attributes of the lost habitat that made it any more significant than any other part of the range."²¹³ However, nowhere in the withdrawal notice does FWS define the terms "persist" or "viable." FWS's use of these terms seems to suggest that they stand for the lizard's continued presence and survival, a far cry from the usual definition of persistence and viability under the ESA, which extend beyond survival to conservation and recovery.

Defenders again brought suit, alleging the withdrawal violated the ESA.²¹⁴ The district court granted summary judgment for FWS.²¹⁵ Plaintiffs appealed

206. *Id.*

207. *Tucson Herpetological Soc'y v. Salazar*, 566 F.3d 870, 875 (9th Cir. 2009).

208. *Id.*

209. *Id.*; Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule To List the Flat-Tailed Horned Lizard as Threatened, 71 Fed. Reg. 36,745, 36,747 (June 28, 2006) (codified at 50 C.F.R. pt. 17).

210. *Id.* at 36,748, 36,751.

211. *Id.* at 36,751.

212. *Id.* at 36,748, 36,751.

213. *Id.* at 36,751.

214. *Tucson Herpetological Soc'y v. Salazar*, 566 F.3d 870, 875 (9th Cir. 2009).

215. *Id.*

that decision to the Ninth Circuit, challenging the district court's 2005 order to the extent that it "upheld the agency's assessment of threats to the lizard's current range" and the 2007 order upholding the agency's decision.²¹⁶

3. *The Ninth Circuit's Opinion in Tucson Herpetological Society*

On appeal, the Ninth Circuit held that FWS's main reason for finding the historic portions of the lizard's range insignificant—the lizard's so-called persistence in the current portions of its range—was not substantiated by the evidence.²¹⁷ The court noted that FWS's conclusion rested on "underdeveloped and unclear" science, inconclusive evidence, and a "single attenuated finding" from which "the Secretary [could not] reasonably infer . . . persistence."²¹⁸ While noting that persistence could be an indicator of the insignificance of the historic portions of a species' range, the court noted that FWS based its findings on "limited and inconclusive" information.²¹⁹ FWS's inference that lizard populations were "viable and stable" and that the lizard was persisting derived from the absence of evidence of population declines.²²⁰ This lack of evidence was not a sufficient showing of persistence, and thus of insignificance of the lizard's historic range.²²¹ Therefore, the Ninth Circuit remanded the withdrawal of the listing of the lizard back to FWS for further consideration.²²²

IV. "RANGE" MEANS HISTORIC RANGE AND "SIGNIFICANT" ENCOMPASSES NOTIONS OF SIZE, BIOLOGICAL SIGNIFICANCE TO THE SPECIES, AND CULTURAL IMPORTANCE

On appeal in *Tucson Herpetological Society*, the Ninth Circuit clarified the test it articulated in *Defenders* for interpreting the SPR phrase: it resolved that "range" refers unambiguously to the historic range of a species, but left the interpretation of the ambiguous term "significant" to the discretion of FWS. However, the Ninth Circuit did suggest that the interpretation of "significant" may be linked to persistence. While the court required that any application of "significant" be based on thorough and reliable scientific study, it did not further delineate FWS's use of this term. This Part explains why the Ninth Circuit's definition of "range" is correct, despite FWS's insistence otherwise, and proposes a definition of "persistence" that may advance the goals of the ESA and fit with the court's decision in *Tucson Herpetological Society*.

216. *Id.*

217. *Id.* at 878–79.

218. *Id.* at 879.

219. *Id.* at 877–78.

220. *Id.* at 878–79.

221. *Id.* at 879–80.

222. *Id.*

A. "Range" Refers to a Species' Historic Range

The Ninth Circuit is correct that "range" must refer to a species' historic range, not merely the species' current range. The definition of range in *Tucson Herpetological Society* fulfills the goals and purposes of the ESA. In contrast, while the Solicitor's Memo justified FWS's position that "range" refers only to the current range of the species because the text of the ESA was written in the present tense,²²³ this explanation undermines the goals of the ESA.

The practical effects of the Solicitor's interpretation of "range" undercut the ESA's goals of protecting species before they have reached the brink of extinction and drawing species back from the brink once they have reached it; in other words, protecting and recovering species.²²⁴ Many species now face such endangerment precisely because they have lost large parts of their historic ranges. Portions of a species' historic range may be necessary to the survival and recovery of that species.²²⁵ If FWS were to ignore a species' lost historic range, the practical effect would be that FWS would be unable to do more than maintain a species at its current level of endangerment. Further, unless FWS considers a species' historic range, it will have no idea of the importance of those parts of the range to the species. A focus on current range alone will preclude FWS from recovering some species, or restoring them to necessary historical habitat. Such a result would seriously subvert the goals of the ESA.

Also, as many commentators have pointed out, and as the lizard's case makes clear, the listing process can be a protracted one.²²⁶ If FWS only considers the range of the species at the time of listing, range that is degraded or permanently lost in the interim will not be considered, and the species may be unable to survive long-term.²²⁷ Such an outcome could encourage parties opposed to restrictions resulting from the ESA's species-protection measures to delay listings as long as possible so as to restrict the areas in which a species could be listed, as FWS could only list a species in its "current" range,²²⁸ which could lead to greater rates of species extinction than under the alternate interpretation of "range."²²⁹

Second, the present tense form of the ESA's text may not indicate a focus only on current range. The text states only that the Secretary shall determine whether a species should be listed by looking at "the present . . . destruction,

223. Solicitor's Memo, *supra* note 11, at 7–8.

224. See *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 680 (D. D.C. Cir. 1997); *Ctr. for Biological Diversity v. Lohn*, 296 F. Supp. 2d 1223, 1236 (W.D. Wash. 2003).

225. See *Enzler & Bruskotter*, *supra* note 8, at 55–56 (the viability and recovery of the endangered Florida panther is not possible within its current range and depends on it reclaiming at least part of its historic range).

226. See *id.* at 47–48.

227. See *id.* at 48–49.

228. See *id.* at 49.

229. See *id.*

modification, or curtailment of its habitat or range.”²³⁰ A species’ loss of parts of its historic range amounts to a present “curtailment of its habitat or range.” Its habitat or range is presently curtailed because of that loss of historic range. While the use of present tense may refer to destruction that is occurring at the time a species is considered for listing, as the Solicitor suggests, such language may also refer to the fact that presently, the habitat is in a state of curtailment, destruction, or modification. Congress, recognizing the ongoing human destruction of habitat, could not have intended that all the habitat loss that occurred prior to a species being evaluated for listing be ignored simply because it occurred before FWS realized the species was in an imperiled state. The use of the present tense thus likely referred to a congressional intention that FWS consider the present status of the species, which includes past changes. The statutory text therefore does not necessarily indicate that only current range should be considered.

Finally, while the Solicitor is correct that courts must defer to an agency’s interpretation of ambiguous language in the statutes it administers, courts must only defer to reasonable interpretations of such language, and reasonable interpretations should not contravene a statute’s clear legislative intent.²³¹ In *Defenders*, the Ninth Circuit found that considering current range only was not a reasonable interpretation of the statute,²³² and many other courts have followed this reasoning.²³³ The Solicitor’s memo cannot now make current range a reasonable interpretation.

Further, FWS once considered historic range when deciding whether to list species under the Act. FWS had a long-standing interpretation of the term “range” that included consideration of a species’ historic range, which matched the Ninth Circuit’s interpretation. FWS and the Solicitor then deviated from this earlier established interpretation of the term. It is unclear what changed circumstances prompted this deviation. Regardless of the motivation, the Ninth Circuit and other courts have declared the term “range” unambiguously requires evaluation of a species’ historic range.²³⁴ The FWS should implement the Ninth Circuit’s definition of range across all jurisdictions.

The purposes of the ESA clarify and guide the meaning of “range.” In order to satisfactorily fulfill these purposes, and satisfy the requirements of the courts and statutory text, “range” should include a species’ historic range, and must do so in the Ninth Circuit.

230. 16 U.S.C. § 1533(a)(1)(A) (2006).

231. See *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842–43, 845 (1984).

232. *Defenders Lizard*, 258 F.3d 1136, 1145 (9th Cir. 2001).

233. E.g., *Defenders Lynx*, 239 F. Supp. 2d 9, 19 (D.D.C. 2002); *Defenders Wolf*, 354 F. Supp. 2d 1156, 1167 (D. Or. 2005).

234. E.g., *Defenders Lizard*, 258 F.3d at 1145 (9th Cir. 2001).

B. “Significant” Refers to Size, Biological Significance to the Species, and Cultural Importance

“Range” alone does not determine the meaning of the SPR phrase. “Range” is modified by “significant,” a far more ambiguous and malleable term than “range.” The Ninth Circuit ruled in *Defenders of Wildlife and Tucson Herpetological Society* that the meaning of “significant” should be left to the determination of the agency.²³⁵ The legislative history and goals of the ESA indicate that “significant” has more than one meaning. The legislative history suggests that “significant” may have as many as three simultaneous meanings: size, biological significance to the species, and the cultural importance of the species’ presence. It is likely that Congress intended that FWS consider all three of these meanings in interpreting and executing the SPR phrase, and that no single meaning should drive listing decisions.

Congress did not want any single interpretation of “significant” to determine listing decisions.²³⁶ Congress refused to use the Senate’s original version of the SPR phrase, which referred only to the size of the range rather than its significance.²³⁷ “Significant” thus cannot refer only to the size of the range. Congress likely chose the language of the SPR phrase so that “significant” would mean more than one thing, including all the factors which would protect species and humankind’s interest in them. In *Tucson Herpetological Society*, the Ninth Circuit hinted that consideration of persistence might be one way of properly accounting for these combined factors.²³⁸ Although FWS’s use of persistence in that case does not achieve this goal, the definition of persistence this Note recommends will do so.

1. “Significant” Includes Size and Biological Importance to the Species

The goals and legislative history of the ESA demonstrate that both size and biological significance of a species’ range to the species were essential parts of the meaning of “significant.” The ESA’s main goal is to conserve and recover species, which implies an intention to prevent the extinction of species where it can, and to ensure that a species will be able to sustain itself over the long-term without assistance. While a decrease in the size of a species’ range

235. *Defenders Lizard*, 258 F.3d at 1145; *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870, 876–77 (9th Cir. 2009).

236. See Enzler & Bruskotter, *supra* note 8, at 62 (noting that Congress did not use “important” or “large” but chose instead to use the word “significant,” likely because both factors are needed to accomplish species recovery).

237. See *id.*

238. See *Tucson Herpetological Soc’y*, 566 F.3d at 877–79 (persistence improperly reflected in unclear and uncertain scientific data did not satisfy *Defender of Wildlife’s* “significan[ce]” test, but a more certain indicator of persistence likely would since “reliance on persistence is not *per se* inconsistent with *Defenders*”).

does not necessarily indicate that a species is in danger of extinction,²³⁹ courts and scientists recognize that the size of a species' range does inform the evaluation of the species' status as endangered or not.²⁴⁰ Further, in order to truly protect a species and prevent it from approaching the brink of extinction, FWS should consider the biological importance of portions of a species' range to its long-term survival. Thus, consideration of the size and other biological characteristics of a species' range is essential to ensuring a species' persistence, the goal of the ESA.

2. "Significant" Should Also Include a Notion of Cultural Importance

The goals of the ESA also indicate that "significant" may mean more than the importance of the range to the species. While Congress desired to preserve species for their intrinsic value, it also hoped to preserve species for their value to humankind and future generations.²⁴¹ Congress recognized that species have many values to humankind, including potential scientific and research value, aesthetic value, and symbolic importance.²⁴²

While the ESA's main purpose was to benefit species, Congress recognized that people, too, would benefit from species conservation.²⁴³ a favorite children's outing is a trip to the zoo, but we also enjoy watching movies about wildlife in its natural habitat. Scientific research on various wildlife and plants, including the rare and endangered, may allow us to cure and prevent disease. Hikers and birders live for the glimpse of wildlife and plants impossible to come by in the city. Numerous states, cities, and municipalities use wildlife as symbols of their region, including the grizzly bear and poppy in California. On a more visceral level, many of us dread the day when our children will ask, "What was a polar bear?" The ESA was intended to protect and conserve species, but one motive behind this goal was a selfish one: the value of wildlife and plants to people. Any interpretation of "significance" should take this reality into account.

Basing an evaluation of the significance of historic portions of a species' range simply on size or biological significance to the species would render the analysis incomplete because it would not include reference to these other ESA goals. Further, it might allow FWS to interpret "significant" in a way that excludes protections for species over large portions of their historic ranges.²⁴⁴ Therefore, any interpretation of "significant" should at least include notions of size, biological significance to the species, and cultural importance of the species' presence.

239. See *Defenders Lizard*, 258 F.3d at 1143; *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1278 (D.N.M. 2005).

240. See *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1282.

241. See 16 U.S.C. § 1531(a)(3) (2006); *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 177 (1978).

242. 16 U.S.C. § 1531(a)(3); *Tenn. Valley Auth.*, 437 U.S. at 177-79.

243. 16 U.S.C. § 1531(a)(3); *Tenn. Valley Auth.*, 437 U.S. at 177-79.

244. See *Enzler & Bruskotter*, *supra* note 8, at 44.

The ESA created a complex scheme intended to protect and recover species, as well as prevent species endangerment. This scheme was a reflection of Congress's lofty conservation and recovery goals. The SPR phrase reflects these goals, so any interpretation of it must also reflect and satisfactorily implement these goals. Therefore, "range" must refer to historic, rather than current, range because this is the understanding of "range" that best protects and prevents species endangerment and extinction. Further, "significant" likely refers to size, biological significance of the range to the species, and cultural significance of the species' presence. Next, this Note suggests that the best indicator of all three of these "significance" factors is the measure of a species' persistence and consideration of its historic range.

V. "PERSISTENCE" AS A REFLECTION OF THE SIGNIFICANCE FACTORS

Persistence is a good indicator of significance, because assessment of persistence can include considerations of the range's size, biological significance of portions of the range to the species, and cultural importance of the species' presence in portions of range when evaluating the historic range of a species. Under the test this Note proposes, the pertinent agency should first quantify the historic range of any species at issue, in conformity with the Ninth Circuit's test. Then the agency should evaluate the significance of portions of a species' range based on these factors by using a persistence test referencing all three of the above factors.

A. *What is Persistence?*

Persistence is a species' ability to survive and reproduce into the future. In order to persist, certain species-specific requirements must be met.²⁴⁵ However, most species generally require at least suitable habitat,²⁴⁶ adequate food sources,²⁴⁷ genetic diversity,²⁴⁸ overlapping patches of habitat (known as range), and population abundance.²⁴⁹

A food source is vital to the persistence ability of any species.²⁵⁰ Suitable habitat is also an obvious requirement for species persistence. The size and quality of suitable habitat are critical²⁵¹ and depend on the needs of each species. In fact, the greatest threat to species persistence is habitat

245. See, e.g., Barrows & Allen, *supra* note 134, at 308.

246. See, e.g., Sw. Ctr. for Biological Diversity v. Norton, No. 98-934, 2002 WL 1733618, at *16 (D.D.C. July 29, 2002).

247. See Greater Yellowstone Coal., Inc. v. Servheen, No. CV 07-134-DWM, 2009 WL 3775085, at *17 (D. Mont. Sept. 21, 2009).

248. See *id.* at *12.

249. Ling-ling Chen & Cang Hui, *Habitat Destruction and the Extinction Debt Revisited: The Allee Effect*, 221 MATHEMATICAL BIOSCIENCES 26, 31 (2009).

250. See Barrows & Allen, *supra* note 134, at 312-13.

251. See Alexandre Robert, *The Effects of Spatially Correlated Perturbations and Habitat Configuration on Metapopulation Persistence*, 118 OIKOS 1590, 1590 (2009).

destruction.²⁵² The ability of a species to persist in spite of habitat destruction depends on species fitness and population size.²⁵³ However, at a certain level of habitat destruction, usually unknown until it is too late, the species “is doomed to extinction.”²⁵⁴ When the appropriate habitat size and quality do not exist, and enough habitat destruction occurs, a species will eventually become extinct.²⁵⁵ Underestimation of the impact of current habitat destruction on a species’ ability to persist can lead an agency to assume persistence when a species is actually headed for extinction; thus, caution in listing decisions based on persistence is necessary.²⁵⁶

An agency must determine what population numbers are necessary for a species to persist into the future.²⁵⁷ The numbers required depend on several other factors, including dispersal ability and connectivity of populations, as well as threats to the species.²⁵⁸ Population numbers are also important to the protection of genetic diversity, which is essential to maintaining a healthy population free of adverse genetic mutations.²⁵⁹

B. *How Long is Long Enough?*

Persistence is a reference to a species’ ability to survive and reproduce over time, so it inherently requires consideration of the time period over which a species “should” survive.²⁶⁰ A time frame must be set, and each factor necessary to a species’ persistence considered with reference to that time frame, in order to gauge whether or not a species is going to persist.

The text of the ESA does not indicate what kind of time frame to use when evaluating a species’ chances of persisting.²⁶¹ However, the standard required should be an objective standard with a subjective overlay. It should be an objective standard in that it should require the persistence of all species to be evaluated on a specified timescale. FWS should choose a timescale that is long enough to ensure that species will really persist, but not so long that it

252. Chen & Hui, *supra* note 249, at 26.

253. *Id.*

254. *Id.* at 27.

255. *Id.* at 31. This extinction event, as well as indicators of its arrival, will usually be delayed under a phenomenon known as the extinction debt. *Id.*

256. *Id.* (“Ignoring time delays in population dynamics can lead to an underestimation of the extinction debt and the number of endangered species under habitat destruction.”).

257. *Id.*

258. A species needs to have a large enough population size to be able to withstand threats and stochastic events and still persist. *See, e.g.,* Robert, *supra* note 251, at 1590; Jaqueline M. Bishop et al., *Reduced Effective Population Size in an Overexploited Population of the Nile Crocodile (Crocodylus Niloticus)*, 142 *BIOLOGICAL CONSERVATION* 2335, 2335 (2009).

259. Bishop et al., *supra* note 258, at 2335, 2340.

260. Such a consideration includes reference to our own estimation of how long we desire particular species to survive.

261. *See* Endangered Species Act, 16 U.S.C. §§ 1531–1545 (2006) (the ESA does not specify a time period over which a species should be recovered; recovery plan timelines, for example, are generally left up to the pertinent agency and are not specified in the Act).

confounds scientific ability to make predictions that far into the future. This time scale should be subjected to both judicial and congressional scrutiny to ensure that it is based on well-founded science and no other reasons, such as political pressure on the agency.

However, the standard should also involve a subjective overlay that allows for flexibility when there is little to no information on a species and no way of obtaining it in a timely manner. The ESA exhorts the Secretary to use “the best scientific and commercial data available” when making listing decisions.²⁶² It is likely that the best data available will not always be able to show a species’ ability to persist over the timeframe FWS selects. While this uncertainty will allow FWS to appeal to a reviewing court on the basis of a lack of usable information or any method of obtaining it, it will also provide the court a firmer standard against which to measure FWS’s claim and its species information. Based on this standard, courts should require FWS to justify its chosen timescale with reference to the goals of the ESA, and should require FWS to consider a longer timescale when possible.

C. *Persistence is a Fancy Word for Recovery*

The use of the persistence concept to define the meaning of “significant” is consistent with the ESA. The purpose of the ESA is to ensure that species are able to survive and reproduce into the future without the methods and measures employed under the ESA, and without the aid of humankind²⁶³; in other words, to recover species. This goal is essentially persistence. An evaluation of persistence can tell us what a species needs to survive, which, in turn, can communicate something about the status of the species and what may be biologically significant to that species. The persistence standard will allow FWS to both determine whether a species needs to be listed, and what the species needs for recovery if it is listed.

Under the ESA, FWS is required to determine whether a species is in danger of extinction “in all or a significant portion of its range,” and what level of danger it faces.²⁶⁴ As noted, some courts have established that FWS must begin by identifying the historic range of the species, and then determine what portion, if any, of that historic range is significant.²⁶⁵ By looking for all the qualities that a particular species needs to persist, and determining whether those exist in the historic portion of a species’ range, FWS can determine whether or not those portions of the species’ range are biologically significant. Thus, FWS will not be limiting itself to evaluating the effect on the species as a

262. 16 U.S.C. § 1533(b)(1)(A).

263. *Id.* § 1532(3).

264. *See id.* § 1532(6), (20).

265. *See, e.g.,* Tucson Herpetological Soc’y v. Salazar, 566 F.3d 870, 875–76 (9th Cir. 2009); *Defenders Lynx*, 239 F. Supp. 2d 9, 21 (D.D.C. 2002), *vacated on other grounds*, 89 Fed. Appx. 273 (D.C. Cir. 2004); *see also Defenders Wolf*, 354 F. Supp. 2d 1156, 1164 (D. Or. 2005).

whole, or the survival possibilities of the species. In this way, the goal of the ESA—to recover a species rather than simply hold it on the brink of extinction—will truly be addressed.

D. *Persistence Can Help Achieve “Recovery Plus”*

The persistence notion may also be extended to encompass the third meaning of “significant”: the value of the species to humankind. When determining whether a species should be listed, we must also answer the question of where a species should persist. This question contemplates the necessity of the species persisting in a large enough and biologically suitable enough range to ensure the species’ persistence. However, it may also implicate the cultural aspect of species protection: perhaps we want species to persist in certain areas for cultural reasons, such as areas that are important to the United State’s cultural heritage.²⁶⁶ For example, we might desire that the grizzly bear persist in California, even if California is not biologically significant to the grizzly bear, because of its cultural significance to the state. While the persistence concept fulfills the basic requirement of encouraging the conservation and recovery of species as understood scientifically by requiring, at a minimum, reference to size and biological significance, the concept may also draw upon the underlying cultural goals of the ESA by going above these scientific demands to satisfy the cultural ones as well.

E. *FWS’s Current View of Persistence Needs an Overhaul*

At Marymount University in 2000, FWS employees met to discuss the future status of the gray wolf.²⁶⁷ At that meeting, FWS created a definition of “significant” that seemed to reflect an emphasis on persistence. The definition “used criteria to categorize populations based on vulnerability to threats that [would] affect long-term persistence.”²⁶⁸ Further, FWS defined “significant portion of [a species’ range] as “that area that is important or necessary for maintaining a viable, self-sustaining, and evolving representative population or populations in order for the taxon to persist into the future.”²⁶⁹ This definition seems to reflect the science in the area of species’ recovery.²⁷⁰ In fact, it seems to use persistence as a gauge for whether portions of a species’ range are significant within the meaning of the Act.

However, appearances are deceiving. First, FWS has used the persistence term inconsistently. Sometimes it used it correctly, as a reflection of actual data

266. See 16 U.S.C. § 1531(a)(3).

267. Enzler & Bruskotter, *supra* note 8, at 27.

268. *Ctr. for Biological Diversity v. Norton*, 411 F. Supp. 2d 1271, 1282 (D.N.M. 2005).

269. Enzler & Bruskotter, *supra* note 8, at 27–28.

270. Barrows & Allen, *supra* note 134, at 313 (noting that the best method of ensuring species persistence is to identify its critical requirements and avoid threatening or destroying those requirements).

indicating a species' chances of persisting over the long-term; other times, it used the term to refer to a species' occupation of, or presence in, an area.²⁷¹ For example, when declining to list the Rio Grande Cutthroat Trout, FWS noted that the thirteen core populations it had identified were not in danger of extinction,²⁷² a technique for making listing decisions that was rejected in, for example, *Defenders Lynx* and *National Wildlife Federation v. Norton*.²⁷³ Use of core populations to determine whether a species is persisting does not adequately reflect the goals of the Act, as it only requires FWS to look at the species as a whole, rendering the SPR phrase superfluous. Further, use of core populations does not reflect the cultural goals of the Act, as it is possible that culturally important parts of a species' range differ from those in which its so-called core populations are found. Also, although most of the other populations were "at greater long-term risk of extinction," FWS claimed that they continued "to persist."²⁷⁴ This claim indicates that FWS used persistence to mean occurrence or merely survival, an interpretation contrary to the ESA.

FWS also used the term persistence inconsistently in the case of the lizard. Though population abundance and trend data were unreliable and inconclusive, FWS claimed the lizard was persisting because it continued to see the lizard in parts of its habitat, not because studies proved the lizard population was viable or self-sustaining.²⁷⁵ These examples do not demonstrate an evaluation of the critical factors needed for a species' long-term persistence; in fact, they show that FWS sometimes does not even consider the species' status in the long term.²⁷⁶

FWS's use of the term in this way is contrary to case law, for it relies on "core populations." Courts have held that the evaluation of "core populations" alone is insufficient under the ESA, because it is equivalent to evaluating only the species as a whole, rather than the different populations of species, rendering the SPR phrase superfluous.²⁷⁷ In the Marymount definition, FWS defined persistence with reference to "evolving representative population or populations."²⁷⁸ This definition refers essentially to core populations and core recovery areas, and FWS concluded in the Marymount meeting that

271. See *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1283 (regarding Fish and Wildlife's decision not to list the Rio Grande Cutthroat Trout).

272. *Id.*

273. *Id.*; *Defenders Lynx*, 239 F. Supp. 2d 9 (D.D.C. 2002); *Nat'l Wildlife Fed. v. Norton*, 386 F. Supp. 2d 553 (D. Vt. 2005).

274. *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1283.

275. See, e.g., *Tucson Herpetological Soc'y v. Salazar*, 566 F.3d 870, 879 (9th Cir. 2009).

276. See *Ctr. for Biological Diversity*, 411 F. Supp. 2d at 1283. (Fish and Wildlife chose to delist a population even where it was at greater long-term risk of extinction simply because it was still "persisting" in the area.)

277. *Defenders Lynx*, 239 F. Supp. 2d 9, 21 (D.D.C. 2002), *vacated on other grounds*, 89 Fed. Appx. 273 (D.C. Cir. 2004); see also *Defenders Wolf*, 354 F. Supp. 2d 1156, 1164 (D. Or. 2005).

278. Enzler & Bruskotter, *supra* note 8, at 28.

populations outside this area were insignificant. Such a conclusion is impermissible under the ESA.

F. A Re-invented Definition to Which FWS Can Be Held Accountable

Persistence is a way of measuring the biological significance of portions of a species' range to that species, as well as fulfilling the size and cultural notions inherent in the ESA, while furthering the purposes of the ESA. However, in order to ensure that this measurement is used to its greatest advantage, two goals must be realized: the concept must be applied consistently by FWS, and courts must be able to enforce the appropriate use of persistence. The best way to fulfill both of these goals is for FWS to promulgate a regulation interpreting "significant portion of its range" in line with the above notions of persistence, accounting for size, biological importance of the historic portions of the species' range to the species, and the cultural importance of the portions of the species' range.

A regulation is ideal because it has the force and effect of law,²⁷⁹ it would be binding on the agency, and it would be reviewable by courts.²⁸⁰ Thus, it would be enforceable by outside parties.²⁸¹ The regulation should include a summary of the science regarding species persistence laid out above. It should enumerate the critical factors generally necessary for species persistence, while also leaving room for those species with additional needs. This regulation should include a time frame over which FWS would evaluate the species' chances of persistence, but it should also create an approach for evaluating the presence of persistence factors for those species, like the lizard, for which there is not much data. Finally, the regulation should indicate that cultural desires of persistence are to be taken into account where it is not contrary to the biological and size needs of the species.

A regulation will help solidify the meaning of "significant portion of its range," and ensure that the phrase is consistently applied. It will limit the discretion, or perhaps confusion, of agency officials in applying the standard. Further, courts will have a clearer standard by which to judge agency listing actions. Litigation may diminish, as such an interpretation furthers the goals of the ESA, errs generally on the side of species, and looks to the cultural desires of the United States. Finally, it responds to some courts' worries about potential negative impacts on FWS's flexibility to deal with the difficult problems of listing and interpreting the phrase by allowing the agency to create the standard, thus deferring to FWS's expertise and providing it the desired flexibility.

279. See Administrative Procedure Act, 5 U.S.C. § 551(4) (2006) (a "rule," or regulation, is an "agency statement . . . designed to implement, interpret, or prescribe law or policy").

280. *Id.* §§ 701, 702, 704, 706.

281. See, e.g., *Dickinson v. Zurko*, 527 U.S. 150, 162 (1999); see also 5 U.S.C. §§ 702, 704, 706.

CONCLUSION

Congress passed the ESA with the intent to do more than merely safeguard the survival of species somewhere in the United States; it intended that species be recovered. Recognizing that previous legislation was not accomplishing this goal, Congress included the SPR phrase in the ESA. The SPR phrase has two ambiguities: the meaning of “range” and the meaning of “significant.” The goals, text, and legislative history of the Act illuminate the meanings of these two terms. “Range” must refer to historic range because accounting for historic range better safeguards species and better carries out the intent of the ESA. “Significant” refers to size of the range and the biological importance of the range to the species, but it also likely refers to the cultural importance of the species’ presence in portions of its historic range. Cultural importance is included in the meaning of “significant” because the ESA emphasizes the value species offer to humankind, so cultural importance should be built into the protection of species.

In *Tucson Herpetological Society v. Salazar*, the Ninth Circuit suggested that measurement of persistence could satisfy the “significance” test for portions of a species’ range.²⁸² However, FWS did not rely on accurate data, or properly measure the persistence of the lizard. FWS has applied an inconsistent and scientifically unsound measurement of persistence to many other listing decisions as well. However, a proper measurement of persistence, accounting for all the factors a species requires to actually persist into the future, using a valid time scale, and based on accurate scientific data, can accurately account for the three concepts built into the term “significant.”

While it may be difficult to determine persistence factors for all species, it is a useful standard for measuring the significance of a species’ historic range. Under this standard, FWS will only be permitted to declare a portion of a species’ historic range insignificant under the ESA if it can prove that each of the persistence factors the particular species requires to persist is absent in those portions. The persistence standard furthers the goals of the ESA by erring on the side of species. Further, it would improve the status of species in the United States in two ways: 1) if a species needs to be listed later, a list of recovery requirements will already exist, and 2) it will move the goal of species recovery to the forefront of FWS’s agenda, allowing FWS to truly consider conservation with every decision it makes regarding listing, satisfying section 7(a)(1)’s exhortation that federal agencies have an affirmative duty to conserve.²⁸³

282. *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870, 877–79 (9th Cir. 2009).

283. 16 U.S.C. § 1536(a)(1) (2006).

Problems with this approach admittedly exist. Most importantly, there is a limit to the amount of information which it is possible to acquire, especially for certain species. However, problems of this sort will always exist in a world of limited information and finite tools to retrieve that information. That is no excuse to require less of FWS under the ESA, as requiring less may result in a reduction in the full species protection Congress had in mind when it first passed the ESA. Under the approach advocated in this Note, FWS will have better guidance on what it needs to prove when making listing decisions, preventing the constant cycle of litigation which currently occurs, and courts will have a better idea of the standard to which they should hold FWS.

We welcome responses to this Note. If you are interested in submitting a response for our online companion journal, *Ecology Law Currents*, please contact ecologylawcurrents@boalt.org. Responses to articles may be viewed at our website, <http://www.boalt.org/elq>.