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Listing Determinations

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I. Introduction

It all begins with listing. The problems over prohibitions and permits, the kvetching concerning critical habitat, the claims of unconstitutionality of the Endangered Species Act (ESA), the consternation with section 7 consultations and habitat conservation plans, not to mention the powerful protections that prompt protests—they are all triggered by a determination that a species is threatened or endangered. These consequences of listing are addressed in the other chapters of the book; this chapter addresses how a species gets on (and off of) the list. The first section describes the current state of the law, beginning with a discussion of the definitions that are key to listing determinations; those definitions are nested in the statute, regulations, and policies like matryoshka dolls. The first section then describes the procedures that govern listing determinations and provides a court's-eye view of listing litigation. The second section is a whirlwind tour of emerging issues in the listing arena.

Note that although much of the following discussion addresses the initial listing of species, the same procedures and standards apply to removing a species from the list ("delisting"), or changing the status of a species from threatened to endangered ("uplisted") or from endangered to threatened ("downlisting").[1] Collectively, all of these decisions, of whatever flavor, are referred to as "listing determinations."

1. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45020, 45034–35 (Aug. 27, 2019); *see* Humane Soc'y of U.S. v. Zinke, 865 F.3d 585, 597 (D.C. Cir. 2017).

II. Current State of the Law

A. Key Definitions and Standards

If the ESA begins with listing, governed by section 4 of the ESA,[2] it is equally true that listing begins with the statutory definitions of "endangered species" and "threatened species," found in section 3.[3] An "endangered species"—the more imperiled of the two statuses—is "any species which is in danger of extinction throughout all or a significant portion of its range" (subject to an exception for insect pests).[4] A "threatened species" is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."[5] A species that is neither threatened nor endangered is sometimes referred to as a species for which listing is "not warranted." Such a species cannot be added to the list—and if already on the list must be removed.[6]

Of course, the words used in these definitions raise a host of secondary questions. And the answers to *those* questions raise yet more. For example, what is a "species"? A separate definition in section 3 defines that term as including "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."[7] So far, so good, but what is a "distinct population segment"? We'll explore that issue in greater detail in the section on case law. Likewise, the terms "significant portion of its range" and "foreseeable future" each warrant more detailed discussion later.

B. Section 4 Procedures

So now we know (in theory) the standards applicable to listing decisions. But who makes those decisions, and how do they make them? The short answer to the first question: the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS). Actually, the ESA empowers the Secretary of the Interior and the Secretary of Commerce with the power to make listing decisions,[8] but that authority has been delegated to FWS and NMFS (collectively, the Services), and heads of those agencies are the decision makers on the vast majority of the listing decisions, subject to the supervision of departmental policy officials. As between the two agencies, FWS generally has jurisdiction over terrestrial animals and freshwater fish, and NMFS has jurisdiction over marine species. To further complicate what at first seemed like a simple

2. 16 U.S.C. § 1533.
3. *Id.* § 1532.
4. *Id.* § 1532(6).
5. *Id.* § 1532(20).
6. *See* Friends of Blackwater v. Salazar, 691 F.3d 428, 432–34 (D.C. Cir. 2012) (stating a species that is recovered should be delisted, regardless of whether it has met the delisting criteria in an applicable recovery plan).
7. 16 U.S.C. § 1532(16).
8. *See id.* § 1533(a)(1).

answer, some species don't respect these neat divisions (e.g., sea turtles and anadromous fish), and the Services have worked out a variety of jurisdictional boundaries to address more complicated situations.[9]

And how do FWS and NMFS determine that species are or are likely to become "in danger of extinction"? They consider the factors listed in section 4(a)(1), using the procedures described in section 4(b). Section 4(a)(1) contains the primary operative command regarding listing:

> The Secretary shall . . . determine whether any species is an endangered species or a threatened species because of any of the following factors:
> (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
> (B) overutilization for commercial, recreational, scientific, or educational purposes;
> (C) disease or predation;
> (D) the inadequacy of existing regulatory mechanisms; or
> (E) other natural or manmade factors affecting its continued existence.[10]

Subparagraphs (A) through (E) are often referred to as the "5 Factors." Note particularly the last two factors. Factor E is a catchall provision, so that the Services may consider *any* factor affecting the species. And Factor D is unlike the other factors. It is not so much a factor that itself endangers a species but relates to an inadequate response to a threat posed by one of the other factors.

The ellipsis in the block quote replaces "by regulation promulgated in accordance with subsection (b)." Thus, listing determinations are rulemakings governed by the Administrative Procedure Act,[11] with an overlay of ESA-specific procedures.

The rest of this subsection describes the detailed statutory procedures for listing determinations. In addition to the ESA, the agencies also follow the binding regulations that they promulgated to implement the statute listing provisions. Those regulations are found at 50 C.F.R. part 424.[12] Moreover, FWS has published a handbook intended to guide its employees and interested

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9. *See* 16 U.S.C. § 1532(15) (defining "Secretary" as "Secretary of the Interior or the Secretary of Commerce as program responsibilities are vested pursuant to the provisions of Reorganization Plan Numbered 4 of 1970"); *see also* Reorganization Plan No. 4 of 1970, 35 Fed. Reg. 15,627 (Oct. 3, 1970).

10. 16 U.S.C. § 1533(a)(1). A species may also be treated as threatened or endangered if it closely resembles a listed species. *Id.* § 1533(e).

11. 5 U.S.C. §§ 704, 706.

12. The most recent revisions to the regulations regarding listing were promulgated in 2019 during the Trump administration. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020 (Aug. 27, 2019). Particular provisions of those regulations are discussed later. It is possible that the Biden administration will initiate a new round of rulemaking to undo some of those recent changes, so the reader is encouraged to check the current status of part 424.

parties through the listing process. The handbook, however, is quite dated, having been written before most of the case law and several significant revisions to the regulations.[13]

1. The Two Pathways to Listing

What triggers this rulemaking process? There are two pathways to a listing determination. First, the Services may, on their own initiative, use the authority of section 4(a)(1) to make a listing determination. Thus, if the Services obtain information suggesting that listing a species may be warranted, they may conduct a review of the status of the species. If they conclude that listing is warranted, they either immediately propose to list the species or add the species to a "candidate list."[14] Species on FWS's candidate list (NMFS generally doesn't employ this option) are assigned a "listing priority number" based on the threats they face and their taxonomic status.[15] Species with the highest priority are the first to be proposed for listing when resources to do so are available.

The second pathway is the petition process. Congress amended the ESA in 1982 to provide a mechanism for the public to force the Services to consider a species for listing;[16] in 2016, the Services promulgated the current regulations that govern ESA petitions.[17] The regulations require that 30 days prior to submitting a petition, the petitioner provide notice of its intent to file a petition with relevant state agencies.[18] When one of the Services receives a petition,[19] that agency must, "to the maximum degree practicable," make an

13. U.S. Fish & Wildlife Serv., *Endangered Species Listing Handbook* (Mar. 1994), https://training.fws.gov/resources/course-resources/esa-overview/documents/pdf/FWS-Listing-Handbook.pdf.

14. *Candidate Conservation, The Candidate Conservation Process*, U.S. Fish & Wildlife Serv. (Dec. 11, 2017), https://www.fws.gov/endangered/what-we-do/candidate-conservation-process.html; *see* Endangered and Threatened Wildlife and Plants; Review of Domestic and Foreign Species That Are Candidates for Listing as Endangered or Threatened; Annual Notification of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions, 84 Fed. Reg. 54,732 (Oct. 10, 2019) (to be codified at 50 C.F.R. pt. 17). *See generally* 50 C.F.R. § 424.15.

15. *See* Fish & Wildlife Serv., Endangered and Threatened Species Listing and Recovery Priority Guidelines, 48 Fed. Reg. 43,098, 43,102 (1983) [hereinafter 1983 Guidelines].

16. *See* Endangered Species Act Amendments of 1982, Pub. L. No. 97-304, § 2(a), 96 Stat. 1411 (1982).

17. Endangered and Threatened Wildlife and Plants: Revisions to the Regulations for Petitions, 81 Fed. Reg. 66,484 (Sept. 27, 2016). In addition, in 1996, the Services published a guidance document regarding the petition process. U.S. Fish & Wildlife Serv. and Nat'l Marine Fisheries Serv., *Endangered Species Petition Management Guidance* (1996), https://www.fws.gov/wafwo/pdf/petitionmgmtguidance1996.pdf. Not only is that guidance dated, but one court held that the procedure by which it was promulgated violated the ESA. Am. Lands All. v. Norton, 242 F. Supp. 2d 1 (D.D.C.), *vacated in part on reconsideration*, 360 F. Supp. 2d 1 (D.D.C. 2003).

18. 50 C.F.R. § 424.14(b).

19. The regulations state a variety of requirements for a submission to qualify as a petition. *Id.* § 424.14(c).

initial determination with respect to the petition within 90 days.[20] At issue in the initial determination is whether the petition presents "substantial information" that the petitioned action "may" be warranted.[21] The regulations elaborate on this statutory term, stating that it "refers to credible scientific or commercial information in support of the petition's claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted."[22] If the agency finds that a petition presents substantial information, it will review the status of the species. If not, the petition process is concluded. In either case, the agency must publish the "90-day finding" in the *Federal Register*.[23]

If a petition leads to a status review, the *Federal Register* notice invites the public to provide relevant data. In addition, the agency will review the scientific literature with respect to the species and gather data on the species and threats from other federal and state agencies and species experts. The agency must complete the status review and make a second finding within 12 months, creatively referred to as a "12-month finding." That finding can have one of three outcomes: (1) the petitioned action is not warranted, in which case the petition process is concluded; (2) the petitioned action is warranted, in which case the agency must promptly publish a proposed rule to take the action; or (3) the petitioned action is warranted but precluded by higher priorities.[24] In the latter case, the agency must also find that "expeditious progress is being made" to add species to and remove species from the list.[25] Note that, because of the availability of the "warranted-but-precluded finding," and in contrast to the other steps in the listing process, there is no strict deadline for publishing a proposed listing rule when listing is warranted. That said, the Services remain under continuing obligations with respect to warranted-but-precluded species: they must "implement a system to monitor effectively the status" of warranted-but-precluded species,[26] and make additional 12-month findings annually until the species is either proposed for listing or they determine that listing is in fact not warranted.[27] All 12-month findings must also be published in the *Federal Register*.[28]

Regardless of which pathway to a listing determination causes the Services to begin a status review, and whether that status review leads to a rulemaking, the ESA expressly requires that determinations as to whether a listing is warranted be made "solely on the basis of the best scientific and commercial data

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20. 16 U.S.C. § 1533(b)(3)(A).

21. *Id.*

22. 50 C.F.R. § 424.14(h)(1). The regulations also include a list of information to be included in petitions that will be relevant to the determination of whether the petition presents "substantial information." *Id.* at § 424.14(d).

23. 16 U.S.C. § 1533(b)(3)(A).

24. *Id.* § 1533(b)(3)(B).

25. *Id.* § 1533(b)(3)(B)(iii)(II).

26. *Id.* § 1533(b)(3)(C)(iii).

27. *Id.* § 1533(b)(3)(C)(i).

28. *Id.* § 1533(b)(3)(B).

available."[29] This provision has two important corollaries. First, as numerous court decisions have made clear, the reference to "available" data means that the Services have no obligation to conduct primary research to generate new data before making a decision—the ESA only requires that the Services, in conducting status reviews, gather and consider the already existing data.[30] As a result, the Services must sometimes make decisions even when they know very little about the species.[31] Second, the reference to "solely" means that other factors, in particular the economic effects of listing, can play no role in the decision of whether a species warrants listing.[32]

In recent years, FWS has begun packaging the available science for a species being considered for listing in a "Species Status Assessment," or SSA. This tool has the benefit of insulating the biological and threat data regarding a species from the determination of legal status under the standards of the ESA. An SSA also serves as an evolving repository of information regarding the species that can be used for all decisions or actions that FWS takes regarding the species.[33]

2. Listing Rulemaking

When the Services publish a proposed rule in the *Federal Register* to list or change the listing status of a species, that proposed rule triggers the next series of procedural requirements. As with any informal rulemaking under the Administrative Procedure Act (APA), the Services must publish a notice of proposed rulemaking, accept and consider public comment, and publish a final rule.[34] Beyond the basic requirements of the APA, section 4(b)(5)–(6) sets forth additional ESA-specific procedures. Among other things, the agency must provide notice of the proposed rule to a variety of parties, publish a

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29. *Id.* § 1533(b)(1). The Services issued a policy that explains how they implement this standard in practice. Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act, 59 Fed. Reg. 34,271 (July 1, 1994).

30. *E.g.*, Sw. Ctr. for Biological Diversity v. Babbitt, 215 F.3d 58 (D.C. Cir. 2000).

31. *See, e.g.*, Nat'l Ass'n of Home Builders v. Norton, 340 F.3d 835 (9th Cir. 2003) (holding that the FWS may rely on best available evidence, even if that evidence is weak).

32. H.R. Conf. Rep. No. 97-835, at 20 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2807, 2861. Note that the 2019 revisions to the regulations deleted language prohibiting the Services from even making reference to economic impacts, but the preamble explained decisions would nonetheless continue to be based solely on the best available scientific and commercial data. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020, 45,023–26, 45,052 (Aug. 27, 2019) (revising 50 C.F.R. § 424.11(b)).

33. *See generally ESA Implementation | Species Status Assessment*, U.S. Fish & Wildlife Serv. (May 30, 2018), https://www.fws.gov/endangered/improving_ESA/ssa.html. A challenge to the "SSA program" was dismissed on standing grounds. Ctr. for Biological Diversity v. Bernhardt, 442 F. Supp. 3d 97 (D.D.C. 2020), *appeal filed*.

34. 5 U.S.C. § 553; *see* 16 U.S.C. § 1533(b)(4) (stating the APA rulemaking provisions apply to any rulemaking under the ESA).

summary in local newspapers, and hold a hearing, if requested.[35] Having published a proposed rule, the agency must within one year publish either (1) a final rule, (2) a notice that it is withdrawing the proposed rule, or (3) a notice that it is triggering a statutorily-provided-for six-month extension to solicit additional data.[36] To trigger an extension, the Secretary must find that there is "a substantial disagreement regarding the sufficiency or accuracy of the available data."[37] Proposed and final listing rules must include a summary of the data on which the decision is based and explain the relationship of that data to the determination.[38]

Congress presumably required this elaborate rulemaking process for listing determinations because it judged that the importance of the decisions at issue warranted a careful and transparent process that allowed for maximum input from interested parties. As a result, the rulemaking process that the ESA requires for listing determinations can be time-consuming and labor-intensive. But the threats facing imperiled species can be of such a nature that a delay in listing a species for a year or more can defeat the conservation purposes of the ESA. Congress resolved this tension by providing for a shortcut for emergency situations. All of the procedural requirements can be waived for 240 days "in regard to any emergency posing a significant risk to the wellbeing" of the species.[39] Thus, the Services have the authority to immediately (but temporarily) list species with a simple *Federal Register* notice.

Note that two other rulemakings can be associated with listing. First, whenever either of the Services determines that a species warrants listing as threatened or endangered, that agency must designate critical habitat for the species.[40] Critical habitat is discussed in detail in Chapter 3. Second, under section 4(d) of the ESA,[41] the Services may promulgate rules instituting protective mechanisms for threatened species, which are not covered by the prohibitions applicable to endangered species (found in section 9). Historically, FWS had applied what was referred to as the "blanket 4(d) rule" to most threatened

35. 16 U.S.C. § 1533(b)(5); *see* 50 C.F.R. § 424.16. The Services have a policy of seeking peer review on proposed listing determinations. Endangered and Threatened Wildlife and Plants: Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities, 59 Fed. Reg. 34,270 (July 1, 1994).

36. 16 U.S.C. § 1533(b)(6)(A); *see* 50 C.F.R. §§ 424.17, 424.18. Note that if a proposed rule is withdrawn, it may not be reproposed in the absence of new information. *See* 16 U.S.C. § 1533(b)(6)(B)(ii).

37. 16 U.S.C. § 1533(b)(6)(B)(i).

38. *Id.* § 1533(b)(8).

39. *Id.* § 1533(b)(7). This authority is used only rarely, most recently for the Miami blue butterfly. *See* Endangered and Threatened Wildlife and Plants; Emergency Listing of the Miami Blue Butterfly as Endangered, and Emergency Listing of the Cassius Blue, Ceraunus Blue, and Nickerbean Blue Butterflies as Threatened Due to Similarity of Appearance to the Miami Blue Butterfly; Final Rule, 76 Fed. Reg. 49,542 (Aug. 10, 2011).

40. 16 U.S.C. § 1533(a)(3).

41. *Id.* § 1533(d).

species.[42] Under that rule, FWS by default applied to threatened species the same prohibitions that apply to endangered species, unless FWS promulgated a species-specific rule that put in place a different set of prohibitions. FWS recently revised this regulation so that it will not apply to newly listed threatened species, so in the future, all prohibitions for threatened species will be set forth in species-specific rules.[43] (This will put FWS on the same footing with NMFS, which never adopted a blanket 4(d) rule.) The topic of 4(d) rules in the context of conservation plans is addressed separately later in this chapter.

3. Ongoing Administrative Duties

In addition to the substantive requirements of designating critical habitat and creating recovery plans[44] for listed species, section 4 also imposes on the Services a number of ongoing administrative duties related to listing. First, the Secretary of the Interior is tasked with maintaining and publishing the list of threatened and endangered species.[45] That list is found at 50 C.F.R. § 17.11 (for wildlife) and § 17.12 (for plants).[46] Second, the Services must conduct a review of all listed species at least once every five years and determine whether the status of any listed species should be changed.[47] Third, the Services must implement a system to monitor the status of species that have been delisted for at least five years.[48]

C. Section 4 in the Courts

There are two basic sources of jurisdiction for the courts to review listing determinations, the ESA and the APA. The ESA citizen-suit provision provides that "any person may commence a civil suit . . . against the Secretary where there is alleged a failure of the Secretary to perform any act or duty under section [4] . . . which is not discretionary with the Secretary."[49] For claims that don't involve a mandatory duty under section 4, final listing determinations are final agency actions and subject to review under the arbitrary-and-capricious

42. Endangered and Threatened Wildlife and Plants; Protection for Threatened Species of Wildlife, 43 Fed. Reg. 18,181 (Apr. 28, 1978) (adding 50 C.F.R. § 17.31); *see* Sweet Home Chapter of Cmtys. for a Great Or. v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993) (upholding blanket 4(d) rule).

43. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 44,753 (revising 50 C.F.R. § 17.31).

44. 16 U.S.C. § 1533(f).

45. *Id.* § 1533(c)(1).

46. NMFS repeats the list with respect to the species over which it has jurisdiction in its regulations. *See* 50 C.F.R. §§ 223.102, 224.101.

47. 16 U.S.C. § 1533(c)(2); *see* U.S. Fish & Wildlife Serv. and Nat'l Marine Fisheries Serv., *5-Year Review Guidance: Procedures for Conducting 5-Year Reviews under the Endangered Species Act* (July 2006), https://www.fws.gov/endangered/esa-library/pdf/5-yrReview_Guidance_20060701.pdf.

48. 16 U.S.C. § 1533(g).

49. *Id.* § 1540(g)(1)(C).

standard of the APA.[50] And the APA allows courts to compel agency action unlawfully withheld or unreasonably delayed.[51] As both the ESA and the APA impose both procedural requirements and substantive standards (albeit indirectly for the APA), some procedural and merits challenges can be brought under either statute. In any case, if a plaintiff is successful in listing litigation, the court must determine what remedy to impose.

An intensive search by the author for substantive judicial opinions relating to section 4 (including critical habitat designations) yielded 550 opinions as of the end of 2019—all of which the author has read. The distribution of those cases across time is shown on Figure 2.1.

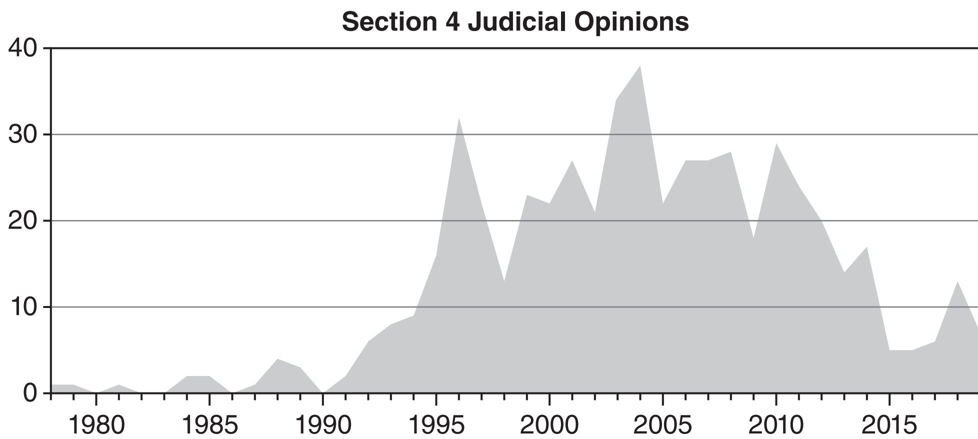

Figure 2.1 Section 4 Judicial Opinions

A number of factors have contributed to the creation of a robust body of case law regarding listing. Ambiguous terms in the statute, regulations, and policies, when combined with the perceived importance of the decisions being made, often result in merits litigation. Enormous workload, limited budgets, and the demanding procedural requirements of the ESA have likewise provided fodder for much procedural litigation, especially of the deadline variety. That said, it is evident from Figure 2.1 that there was relatively little section 4 litigation during the first two decades of the ESA's existence. That changed significantly in the mid-1990s for a variety of reasons discussed later. Less dramatic but still evident in this chart is the change that resulted from a pair of settlements in 2011 that led to a radical reduction in deadline litigation. Those settlements are also discussed later.

50. 5 U.S.C. §§ 704, 706(2); *see, e.g.*, Pac. Coast Fed'n of Fishermen's Ass'n, Inc. v. Nat'l Marine Fisheries Serv., 265 F.3d 1028, 1034 (9th Cir. 2001). Note the ESA in effect clarifies that negative 90-day findings and not-warranted and warranted-but-precluded 12-month findings qualify as final agency actions and are thus reviewable. *See* 16 U.S.C. § 1533(b)(3)(C)(ii).

51. 5 U.S.C. § 706(1).

1. Substantive Challenges

In substantive challenges to listing determinations, the Services benefit from deferential standards of review. Arbitrary-and-capricious review, applicable to agency determinations, is highly deferential. But courts are at their "most deferential" when, as with the making of listing determinations, "the agency is making predictions, within its area of special expertise, at the frontiers of science."[52] To avoid the high hurdle of this deferential standard of review, plaintiffs often style their challenges as failures to comply with the ESA's mandate to use the best data available. Unless, however, plaintiffs can point to a concrete failure to consider particular data,[53] courts usually view these arguments as plaintiffs disagreeing with the Services' analysis of the data, and decline to substitute their judgment for that of the Services.[54]

Even so, the Services have lost their share of cases raising substantive challenges to listing determinations. On rare occasions, a court finds that, notwithstanding the standard of review, the listing determination simply isn't supported by the record. For example, in a case involving delisting of a population of gray wolves, the court held that FWS's conclusion that a recovery criterion was met was speculation contrary to strong evidence in the record.[55] More often, courts find that the Services have misinterpreted or acted contrary to particular provisions of the ESA. Many of these losses can be grouped into cases in which the court found that the Services (1) applied the wrong evidentiary standard, (2) inappropriately considered conservation efforts, or (3) misapplied the authority to make determinations with respect to distinct population segments. Several other types of substantive challenges are also discussed in the section on emerging issues and future directions. Space considerations prevent discussion here of other types of merits challenges, such as those relating to emergency listings and candidate notices, as well as the myriad cases in which plaintiffs argued that listing determinations were arbitrary and capricious based on record-specific factors.

(a) Evidentiary Standards for Determinations

A number of cases have focused on the evidentiary standard applicable to listing determinations. As just noted, and with the exception of 90-day findings,[56]

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52. Lands Council v. McNair, 537 F.3d 981, 993 (9th Cir. 2008) (en banc) (citation omitted); *accord* Am. Wildlands v. Kempthorne, 530 F.3d 991,1000–01 (D.C. Cir. 2008).

53. *See, e.g.*, Ctr. for Native Ecosystems v. U.S. Fish & Wildlife Serv., 795 F. Supp. 1199 (D. Colo. 2011) (holding that FWS failed to use best available data because it did not adequately explain contrary information). *See generally* Kern Cnty. Farm Bureau v. Allen, 450 F.3d 1072 (9th Cir. 2006) (discussing standard).

54. *See* Kern Cnty. Farm Bureau v. Allen, 450 F.3d 1072 (9th Cir. 2006) (court concluded that plaintiffs simply disagreed with FWS's interpretation of the data).

55. Defenders of Wildlife v. Hall, 565 F. Supp. 2d 1160 (D. Mont. 2008). *But see, e.g.*, Ctr. for Biological Diversity v. Jewell, No. CV-12-02296-PHX-DGC, 2014 U.S. Dist. Lexis 157436 (D. Ariz. Nov. 5, 2014) (rejecting the argument that record, including contrary staff recommendation, did not support FWS's determination).

56. Sw. Ctr. for Biological Diversity v. Babbitt, 131 F. Supp. 2d 1 (D.D.C. 2001) (finding that the best-available-data standard does not apply to 90-day findings).

Congress mandated that listing determinations be made on the basis of the best data available. This standard can serve as both a sword and a shield in listing litigation. It can be used as a sword in challenging the Services' determinations not to take listing actions. Thus, if the record suggests that the agency may have applied a different standard, such as requiring "conclusive" evidence that listing or delisting is warranted, courts will remand for a new decision under the correct standard.[57] Similarly, in the context of 90-day findings, where a much lower standard is applicable (substantial evidence that the petitioned action *may* be warranted), courts will closely scrutinize a negative determination for evidence that the Services erroneously applied a higher standard.[58] The best-data-available standard can also serve as a shield by the Services in challenges to decisions to take listing actions. Thus, courts reject arguments that the Services can only act in the face of certainty.[59]

Many environmental plaintiffs, and some courts, have suggested that the Services apply a "precautionary approach" (sometimes referred to as "the precautionary principle") to listing determinations.[60] This concept relates to the standard for taking action in the face of uncertainty; in the context of the ESA, it has been described as giving imperiled species the benefit of the doubt when agencies make decisions.[61] Applied to listing determinations, this might mean applying a rebuttable presumption that species warrant listing in the absence of persuasive data to the contrary. The Ninth Circuit applied the precautionary principle in a section 7 case,[62] and it may make sense to give the benefit of the doubt to species that the Services have already determined *are* in peril (although application even in this context is disputed by some commenters).[63] It is not clear, however, that it is appropriate to apply the precautionary principle in the very different context of the intake decision as to whether a species warrants protection in the first place, and some courts have rejected its application to listing determinations.[64] Courts will, however, carefully scrutinize listing determinations if it appears that the Services equate a lack of data that a species is declining with the conclusion that it is in fact not declining.[65]

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57. *E.g.*, Defenders of Wildlife v. Babbitt, 958 F. Supp. 670 (D.D.C. 1997).

58. *E.g.*, Humane Soc'y of U.S. v. Pritzker, 75 F. Supp. 3d 1 (D.D.C. 2014).

59. *E.g.*, Ariz. Cattle Growers' Assoc. v. Salazar, 606 F.3d 1160 (9th Cir. 2010).

60. *E.g.*, Babbitt, 958 F. Supp. at 670.

61. *See generally, e.g.*, Phillip M. Kannan, *The Precautionary Principle: More Than a Cameo Appearance in United States Environmental Law*, 31 Wm. & Mary Env't L. & Pol'y Rev. 409 (2007); John E. Duke, Note, *Giving Species the Benefit of the Doubt*, 83 B.U.L. Rev. 209 (2003).

62. *See* Conner v. Burford, 848 F.2d 1441, 1454 (9th Cir. 1988).

63. *See, e.g.*, J.B. Ruhl, *The Battle of Endangered Species Act Methodology*, 34 Env't L. 555 (2004).

64. *E.g.*, Ctr. for Biological Diversity v. Lubchenco, 758 F. Supp. 2d 945, 955 (N.D. Cal. 2010) (rejecting application of precautionary principle in section 4 context).

65. NRDC v. Rauch, 244 F. Supp. 3d 66 (D.D.C. 2017); *see also* Tucson Herpetological Soc'y v. Salazar, 566 F.3d 870, 879 (9th Cir. 2009).

(b) Conservation Efforts

One long-running source of dispute in the listing arena is how the Services, when making listing determinations, should consider efforts designed to conserve species. On the one hand, environmental plaintiffs have often argued that the Services can't under any circumstances consider voluntary, future, or unproven conservation measures when making listing determinations. In effect, the plaintiffs argued that section 4(a)(1), by stating that "the inadequacy of existing regulatory mechanisms" is a factor in making listing determinations, prohibits the consideration of conservation measures that don't qualify as "regulatory mechanisms." On the other hand, listing determinations must be based on the best data available. Thus, when considering *threats*, that standard requires the Services to make reasonable predictions concerning the applicability of threats in the future as well as how those threats will affect the species. Doesn't the best-data-available standard likewise require the Services to make reasonable predictions about *efforts to ameliorate those threats*?

Notwithstanding this concern, a number of courts agreed with the plaintiffs.[66] In response, FWS and NMFS in 2003 promulgated a "Policy on the Evaluation of Conservation Efforts," referred to as PECE (pronounced "peace").[67] This policy provides two criteria under which formalized conservation efforts that have not yet been implemented, or that have been implemented but not yet proven effective, can be evaluated when the Services are deciding whether or not to list a species. The two criteria are: (1) the certainty that the conservation effort will in fact be implemented, and (2) the certainty that the conservation effort will be effective. PECE provides a variety of factors that the Services will consider when evaluating each criterion. For the Services to consider a formalized conservation effort in a listing determination, the Services must find that the effort is "sufficiently certain to be implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species."[68] Note that although PECE was not written to cover determinations of whether to delist already listed species,[69] a strong argument can be made that PECE's logic applies equally in that context.

There have been relatively few challenges regarding PECE. One court expressly determined that PECE is a permissible construction of the statute.[70] A few other courts have simply reviewed an application of PECE. In some cases, courts have upheld the Services' determinations not to list, based in part on giving weight to conservation measures that satisfied PECE.[71] In others,

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66. *E.g.*, Or. Nat. Res. Council v. Daley, 6 F. Supp. 2d 1139 (D. Or. 1998).

67. Policy for Evaluation of Conservation Efforts When Making Listing Decisions, 68 Fed. Reg. 15,100 (Mar. 28, 2003).

68. *Id.* at 15,115.

69. *See id.* at 15,101 (response 1), 15,113.

70. Rocky Mountain Wild v. U.S. Fish & Wildlife Serv., 216 F. Supp. 3d 1234 (D. Colo. 2016).

71. *E.g.*, Defenders of Wildlife v. Jewell, 815 F. 3d 1 (D.C. Cir. 2016). *But see* Desert Survivors v. DOI, 321 F. Supp. 3d 1011, 1060–65 (N.D. Cal. 2018) (holding FWS's conclusion regarding certainty of effectiveness to be arbitrary and capricious).

courts have upheld determinations to list despite conservation measures, deferring to an agency finding that the measures did not meet the PECE standard.[72] Even after the issuance of PECE, courts continue to be split on whether the Services may consider voluntary (nonregulatory) conservation efforts.[73]

(c) Distinct Population Segments (DPSs)

As noted earlier, "species" under the ESA is a term of art, not limited to biological species. It includes not only biological species but also subspecies and a third category, "distinct population segments" (or DPSs). This term is a creation of Congress, with no prior established scientific meaning. Unlike many of the other terms in the key definitions relating to listing, the Services gave the DPS concept relatively early attention, issuing in 1996 a policy explaining its application.[74] Under the DPS Policy, DPSs must be both discrete (either biologically or based on an international border) and significant to the taxon as a whole. The existence of the DPS Policy has not, however, inoculated the Services from litigation regarding application of the term.

The most noteworthy litigation involving DPSs relates to gray wolves. Application of the ESA to this species has been controversial for decades, in part because the species has made significant progress—as wolf numbers have increased, so have their conflicts with humans. Gray wolves once inhabited most of the United States (precisely how much involves complicated issues of canid taxonomy and historical records, and remains unclear to this day). By the 1970s, human persecution of gray wolves led to their extirpation throughout the conterminous 48 states, except for a small population in Minnesota.[75] Protection of those wolves and reintroduction of wolves in the northern Rocky Mountains have resulted in two large, biologically healthy populations, albeit in only a fraction of their original range.

This success has not only intensified conflicts with human, it has also raised legal questions. By 1976, FWS had listed four subspecies of gray wolf under

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72. *E.g.*, Alaska v. Lubchenco, 825 F. Supp. 2d 209 (D.D.C. 2011); Colorado by & through Colorado Dep't of Nat. Res. v. U.S. Fish & Wildlife Serv., 362 F. Supp. 3d 951, 966–81 (D. Colo. 2018).

73. *Compare* Colo. River Cutthroat Trout v. Salazar, 898 F. Supp. 2d. 191 (D.D.C. 2012) (finding that although not regulatory mechanisms under section 4(a)(1)(D), FWS properly considered voluntary conservation strategy as part of its overall assessment of the status of the species), *and* Desert Survivors v. DOI, 321 F. Supp. 3d 1011, 1059 (N.D. Cal. 2018), *with* Rocky Mountain Wild v. U.S. Fish & Wildlife Serv., No. CV 13-42-M-DWM, 2014 WL 7176384, at *11 (D. Mont. Sept. 29, 2014) (holding that the FWS "may not base its determination on . . . voluntary actions"), *and* Ctr. for Biological Diversity v. Morganweck, 351 F. Supp. 2d 1137 (D. Colo. 2004) (stating that the FWS "improperly relied on voluntary and promised state management actions to deny protection").

74. Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996). NFMS issued a separate, but compatible, policy specifically to address distinct population segments of salmonids, termed "evolutionarily significant units" or "ESUs." Policy on Applying the Definition of Species Under the Endangered Species Act Pacific Salmon, 56 Fed. Reg. 58,612 (Nov. 20, 1991).

75. Endangered and Threatened Wildlife and Plants; Removing the Gray Wolf (*Canis lupus*) from the List of Endangered and Threatened Wildlife, 84 Fed. Reg. 9648-01 (Mar. 15, 2019).

the ESA.[76] Due to uncertainly in wolf taxonomy, FWS replaced those listings in 1978 with a new formulation: gray wolves in Minnesota were threatened, whereas gray wolves in the remaining 47 contiguous states and Mexico were endangered.[77] These listings were put in place just before Congress amended the ESA to include the DPS language in the definition of "species," so they were not necessarily consistent with either the revised statute or the DPS Policy. As the Minnesota population increased, and spread into Wisconsin and Michigan, and as the wolves reintroduced in the northern Rockies thrived and expanded, FWS was confronted with the following questions: should FWS revise the 1978 listings to reflect the changing status of wolves in different parts of the country, and, if so, how?

FWS has tried a number of strategies to revise the status of gray wolves. First, FWS tried splitting the listing into three groups: an endangered Mexican wolf DPS in the southwest, and threatened eastern and western DPSs. Two district courts rejected FWS's new division of the wolf listing, one because it viewed FWS as having combined different populations in a single DPS,[78] the other because it found that it was inappropriate to combine relatively healthy core areas with large areas where the wolf had been extirpated.[79] In response, FWS drew narrower DPSs around the major recovered populations, and attempted to delist those DPSs (as within those areas, at least, FWS determined that the gray wolf was no longer even threatened). This action left the Mexican wolf plus most of the unoccupied areas as endangered but of uncertain legitimacy as a listed entity. Among other things, critics of FWS's approach argued the DPS authority could only be used to increase protections for species, and that FWS lacked authority to identify a DPS from within an already listed entity and delist it.[80] Most recently, the D.C. Circuit held that FWS indeed does have the authority to identify and delist a DPS from within a larger existing listing, but in doing so must determine whether the remainder of the listing itself remains a "species" so that its status under the ESA will continue as needed.[81]

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76. Humane Soc'y of U.S. v. Zinke, 865 F.3d 585, 591 (D.C. Cir. 2017).

77. Reclassification of the Gray Wolf in the United States and Mexico, with Determination of Critical Habitat in Michigan and Minnesota, 43 Fed. Reg. 9607 (Mar. 9, 1978).

78. Nat'l Wildlife Fed'n v. Norton, 386 F. Supp. 2d 553, 563–64 (D. Vt. 2005).

79. Defenders of Wildlife v. DOI, 354 F. Supp. 2d 1156 (D. Or. 2005).

80. Humane Soc'y of U.S. v. Jewell, 76 F. Supp. 3d 69, 109–27 (D.D.C. 2014), *aff'd on other grounds sub nom*. Humane Soc'y of U.S. v. Zinke, 865 F.3d 585 (D.C. Cir. 2017); *see also* Humane Soc'y of U.S. v. Kempthorne, 579 F. Supp. 2d 7, 15–20 (D.D.C. 2008) (earlier case involving the wolf and holding that statute is ambiguous on this issue).

81. *Zinke*, 865 F.3d at 595–603. Note that on the latter point, one of the earlier district court decisions had rejected FWS's argument that it could not create a "non-DPS remnant" when identifying the boundaries of a DPS. *Norton*, 386 F. Supp. 2d at 564–65. Shortly before this book went to press, FWS issued a new rule delisting the gray wolf throughout most of the lower 48 states. Endangered and Threatened Wildlife and Plants; Removing the Gray Wolf (*Canis lupus*) from the List of Endangered and Threatened Wildlife, 85 Fed. Reg. 69,778 (Nov. 3, 2020). The inevitable challenges to this rule will no doubt lead to additional case law regarding application of the DPS language.

Beyond the questions raised in the gray wolf litigation, litigation over DPSs has addressed two other issues regarding interpretation of the statutory language: what "interbreeds when mature" means,[82] and whether a DPS can relate to a taxonomic subspecies rather than a taxonomic species (yes).[83] Interpretation and application of the DPS Policy has been the subject of even more litigation, including regarding whether the DPS Policy is entitled to *Chevron* deference (yes),[84] and what qualifies as "discrete"[85] and "significant."[86] Several cases have also addressed the role of hatchery fish in defining DPSs.[87]

2. Procedural Challenges

Listing litigation is not all fascinating questions about how the statutory standards intersect with the biology of and the threats facing species. Much of the litigation has been about process, particularly deadlines.

(a) Deadline Litigation and the MDL Settlements[88]

As noted previously, section 4 of the ESA is replete with deadlines. Because Congress has never given FWS the resources necessary to take all of the listing and critical habitat actions that are required by the terms of the ESA, FWS has always been vulnerable to challenges regarding the timing of its determinations. (NMFS has historically had sufficient resources to address its smaller bailiwick in the listing arena, and therefore has not chronically had a backlog of overdue listing actions.) This problem was exacerbated in the mid-1990s by the budget cuts and increased backlog of required actions that accompanied

82. Alsea Valley Alliance v. Lautenbacher, 319 Fed. Appx. 588 (9th Cir. 2009); Am. Forest Res. Council v. Ashe, 946 F. Supp. 2d 1 (D.D.C. 2013); Cal. State Grange v. Nat'l Marine Fisheries Serv., 620 F. Supp. 2d 1111 (E.D. Cal. 2008), *aff'd sub nom.* Modesto Irrigation Dist. v. Gutierrez, 619 F.3d 1024 (9th Cir. 2010).

83. Sierra Forest Prods., Inc. v. Kempthorne, No. 2:07-CV-00060 JAM GGH, 2008 U.S. Dist. Lexis 53612 (E.D. Cal. 2008), *aff'd*, 361 Fed. Appx. 791 (9th Cir. 2010).

84. Nw. Ecosystem Alliance v. U.S. Fish & Wildlife Serv., 475 F.3d 1136 (9th Cir. 2007).

85. *In re* Polar Bear Endangered Species Act Listing and Section 4(d) Rule Litigation, 709 F.3d 1 (D.C. Cir. 2013); W. Watersheds Project v. Hall, 338 F. App'x 606, 607 (9th Cir. 2009); *Lubchenco*, 758 F. Supp. 2d at 961–62; *Cal. State Grange*, 620 F. Supp. 2d 1111; *Modesto Irrigation Dist.*, 619 F.3d 1024.

86. Ctr. for Biological Diversity v. Jewell, 868 F. 3d 1054 (9th Cir. 2017); Nat'l Ass'n of Home Builders v. Norton, No. 07-15854, 2009 WL 226048, at *1 (9th Cir. Jan. 30, 2009); Nat'l Ass'n of Home Builders v. Norton, 340 F.3d 835 (9th Cir. 2003); NRDC v. Rauch, 244 F. Supp. 3d 66 (D.D.C. 2017).

87. *E.g.*, Trout Unlimited v. Lohn, 559 F.3d 946 (9th Cir. 2009).

88. For a detailed account of the history of listing deadline litigation and an analysis of the multidistrict litigation settlements, *see* Benjamin Jesup, *Endless War or End This War? The History of Deadline Litigation Under Section 4 of the Endangered Species Act and the Multi-District Litigation Settlements*, 14 Vt. J. Env't. L. 327 (2013) [hereinafter *Endless War*]; *see also* Benjamin Jesup, *The Settlement to End All Settlements? The Fallout of the Comprehensive Deal to Reduce Listing Deadline Litigation Under the Endangered Species Act*, (A.B.A. Sec. Env't, Energy, & Res., Endangered Species Comm. Newsl.), Aug. 2014, at 7 [hereinafter *The Settlement*].

a moratorium on final listing and critical habitat determinations.[89] A period of intense deadline litigation after the moratorium was lifted made it clear that FWS had no defenses against deadline litigation, and courts would order FWS to take overdue actions as soon as it was possible to complete them.[90] This situation precipitated a race-to-the-courthouse dynamic. FWS's deadline woes were later further exacerbated by a series of circuit court cases that had the result of requiring FWS to spend most of its listing program budget on designating critical habitat.[91] A series of petitions asking FWS to list hundreds of additional species made the backlog of listing actions all but endless.[92] Together, these factors led to over a decade in which the vast majority of FWS's appropriated listing funds were spent complying with court orders and settlements.

Also, as noted previously, there is no strict deadline for publishing a proposal to list a species. Rather, the statute provides an express relief valve only at this stage of the listing process, allowing for more time when FWS or NMFS makes a "warranted-but-precluded 12-month finding." As a result, it was much more difficult for litigants to force FWS to propose listings: rather than simply showing that the applicable deadline has past, plaintiffs must demonstrate that issuing a proposed rule is not precluded by higher priorities, or that FWS is not making "expeditious progress" in listing and delisting species. In an environment in which effectively all of FWS listing program funds were required to comply with court orders and settlement agreements, when FWS determined that a species warranted listing it usually was forced to make a warranted-but-precluded finding. This had the practical effect of cutting off the flow of new proposed listings.[93] It was a shared recognition of the counterproductive nature of this situation that allowed for a breakthrough despite years of litigation and distrust.[94]

In 2010, 20 petition deadline cases brought in seven districts by either WildEarth Guardians or the Center for Biological Diversity (CBD) were centralized in a multidistrict litigation (MDL) proceeding in the District of Columbia. In 2011, FWS signed separate settlements with each of the plaintiffs. In the settlements, FWS agreed to a schedule, stretching through 2017, to undertake hundreds of listing determinations, including finally resolving the status of 251 candidate species. In return, the plaintiffs agreed to dismiss their current deadline cases, to significantly limit new listing deadline litigation during the same period, and to dismiss outstanding challenges to

89. *See Endless War*, *supra* note 88, at 344–46.

90. *See, e.g.*, Forest Guardians v. Babbitt, 174 F.3d 1178 (10th Cir. 1999); *Endless War*, *supra* note 88, at 349, 353.

91. *See Endless War*, *supra* note 88, at 351–55.

92. *See id.* at 362–67.

93. *See id.* at 363–64.

94. *See id.* at 377–79.

warranted-but-precluded findings.[95] Although the MDL settlements were controversial in some quarters,[96] they were successful in all but eliminating deadline litigation,[97] allowing FWS to focus its resources on the highest-priority listing actions.

As FWS neared completion of its implementation of the MDL settlements, it took steps to prepare for the post-MDL environment. First, it created a methodology for prioritizing the large number of overdue 12-month findings, which made up the bulk of the remaining backlog of listing actions.[98] Second, based in part on that priority scheme, FWS created a work plan for 2017–2023.[99] In creating the work plan and sharing it with the public, FWS's goal was to provide transparency and predictability as to the likely timing of listing determinations. FWS hoped that by providing its priorities and time frames for action, it would encourage conservation efforts for the species at issue so that ultimately federal protections might not be needed. FWS also hoped that creating (and following) its work plan would discourage listing deadline litigation from re-emerging as a major impediment to the efficiency of the listing program.

In fact, neither CBD nor WildEarth Guardians filed any deadline lawsuits in fiscal year 2017, the first year of the new work plan. Since that time, they have filed some deadline lawsuits, but initially limited those suits to actions that were in the work plan, but for which FWS had missed its own self-imposed deadline. Unfortunately, FWS has struggled to keep up with goals set in the work plan. In 2017, FWS included 47 actions in its work plan, but only completed 35. In 2018, FWS completed only 15 actions out of 49 in the work plan (plus eight held over from FY 2017).[100] Then in 2019, FWS issued a revised work plan that better reflected the evolving facts.[101] Those evolving facts may be reflected in a degrading détente with CBD: in May 2019, CBD filed the first lawsuit since the MDL asserting that FWS cannot make valid

95. *In re* Endangered Species Act Section 4 Deadline Litig., No. 10-377, MDL No. 2165 (D.D.C. Sept. 9, 2011), ECF Nos. 55, 56; *see Endless War*, *supra* note 88, at 373–77.

96. In particular, Republican members of the house objected to the settlement being entered into without state or public comment, suggesting that the plaintiffs and the FWS colluded to impose unreasonable judicial deadlines. *See Endless War*, *supra* note 88, at 385–86.

97. *See The Settlement, supra* note 88, at 9–10; U.S. Gov't Accountability Off., GAO-17-304, Environmental Litigation: Information on Endangered Species Act Deadline Suits 14, 17 (2017).

98. Methodology for Prioritizing Status Reviews and Accompanying 12-Month Findings on Petitions for Listing Under the Endangered Species Act, 81 Fed. Reg. 49,248 (July 27, 2016).

99. U.S. Fish & Wildlife Serv., *National Listing Workplan* (Sept. 2016), https://www.fws.gov/endangered/esa-library/pdf/Listing%207-Year%20Workplan%20Sept%202016.pdf; *see Listing and Critical Habitat, National Listing Workplan*, U.S. Fish & Wildlife Serv., https://www.fws.gov/endangered/what-we-do/listing-workplan.html (June 10, 2020).

100. FWS staff, personal communication.

101. U.S. Fish & Wildlife Serv., *National Listing Workplan* (May 2019), https://www.fws.gov/endangered/esa-library/pdf/5-Year%20Listing%20Workplan%20May%20Version.pdf.

warranted-but-precluded findings,[102] and then in February 2020 filed a deadline suit with respect to 241 overdue listing actions.[103]

Shortly before this book went to press, the first post-MDL deadline case that was litigated (rather than settled) was decided. In a case involving a plant called the Arizona eryngo, the court deferred to FWS's proffered schedule, based on the work plan, for completion of the overdue 12-month finding. The court agreed with FWS that plaintiffs' requested 30-day deadline was unworkable and infeasible. More importantly, the court stated: "Even if it were workable or feasible for the FWS to publish a 12-month findings within 30 days of this Order, the Workplan would be disrupted at the expense of higher-priority actions . . . ."[104] The court expressly used the work plan to distinguish cases from the early 2000s in which courts often took the position that FWS's priorities were legally irrelevant.[105]

Unanswered questions: will FWS's listing budget be cut significantly in future years, rendering even rough implementation of the work plan impossible? Even in the absence of budget cuts, will FWS be able to keep up with its ambitious schedule? Will courts follow the eryngo decision, and defer to the work plan in setting remedies for overdue listing actions?

(b) Other ESA Procedural Requirements

The previous section addressed litigation brought to enforce the ESA's deadlines. It is worth noting that one relatively early decision rejected the argument that a determination made after the applicable deadline is necessarily invalid.[106] But other violations of the ESA's procedural requirements can lead courts to remand decisions.

For example, in one line of cases, courts invalidated 90-day petition findings when the courts perceived that the process the Services used to make the decision was inconsistent with the statutory framework. In each case, the agency had taken steps to gather outside information (beyond the petition itself and the information that the agency already possessed) before making a 90-day finding. These courts viewed the Services' actions as inconsistent with the bifurcated nature of section 4's petition provisions, which call for an initial finding based on the petition, followed by a comprehensive status review that informs the 12-month finding.[107]

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102. Ctr. for Biological Diversity v. Bernhardt, No. 3:18-cv-02843, complaint (N.D. Cal. May 23, 2019).

103. Ctr. for Biological Diversity v. Bernhardt, No. 1:20-cv-00573, complaint (D.D.C. Feb. 27, 2020).

104. Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv., No. CV-19-00354-TUC-JAS, slip op. at 5–6 (D. Ariz. Nov. 24, 2020).

105. *Id.* at 6, n.3.

106. Idaho Farm Bureau v. Babbitt, 58 F.3d 1392, 1400–01 (9th Cir. 1995), *rev'g* 839 F. Supp. 739 (D. Idaho 1993).

107. *See, e.g.*, McCrary v. Gutierrez, No. C-08-015292 RMW, 2010 WL 520762, at *6–8 (N.D. Cal. Feb. 8, 2010) (NMFS appeared to rely on evidence beyond the four corners of the petition); Ctr. for Biological Diversity v. Kempthorne, No. CV 07–0038–PHX–MHM, 2008 WL 659822, at *14 (D. Ariz. Mar. 6, 2008) (improper to solicit and consider information from outside sources at 90-day stage).

The Services have had less of a problem complying with section 4(i).[108] That provision requires the Services to provide written notification to state agencies if the Services adopt regulations under section 4 that are inconsistent with the comments of the state agencies. The Services have only lost one case on this ground[109] that wasn't reversed on appeal.[110]

(c) APA Procedural Requirements

One of the procedural requirements of APA rulemaking is that the public must have a meaningful opportunity to comment on the rule. The prime issue in the listing context has been: under what circumstances must the agency reopen a comment period to give the public the opportunity to comment on new data or analysis that the agency will consider in making its the final determination? Thus, in the rulemaking process to list the Bruneau Hot Springs snail, the court held that FWS violated the APA by failing to make a key draft report available during the comment period.[111] In contrast, where new data merely refine and expand on preexisting data and are not used to independently justify the final determination, reopening of the comment period is not required.[112] A related APA principle regarding public comment is that the final rule must be a logical outgrowth of the proposed rule.[113] Although the Services may make a final determination that varies from the proposal without violating this principle (for example, by finalizing a listing as threatened after proposing to list as endangered),[114] one court found that a final rule that merged two proposed DPSs into one deprived the public of the opportunity to comment.[115]

The APA also requires, via the arbitrary-and-capricious standard of review, that an agency consider the relevant data and not "rel[y] on factors which Congress had not intended it to consider."[116] As noted previously, the ESA requires that listing determinations be based *solely* on the best scientific and commercial data available. Thus, plaintiffs have sometimes alleged that the Services have violated both this standard and the APA by allowing political

108. 16 U.S.C. § 1533(i).

109. *See* San Luis & Delta-Mendota Water Auth. v. Badgley, 136 F. Supp. 2d 1136 (E.D. Cal. 2000) (holding that FWS violated 4(i) in listing the Sacramento splittail without responding to most of California's comments).

110. *See* Alaska Oil & Gas Ass'n v. Pritzker, 840 F.3d 671 (9th Cir. 2016).

111. *Idaho Farm Bureau*, 58 F.3d at 1400–01; *see also* Save Our Springs LDF, Inc. v. Babbitt, 27 F. Supp. 2d 739 (W.D. Tex. 1997) (public did not have opportunity to comment on conservation agreement, which provided basis for withdrawal of proposed listing).

112. *E.g.*, Kern Cnty. Farm Bureau v. Allen, 450 F.3d 1072 (9th Cir. 2006).

113. Long Island Care at Home, Ltd. v. Coke, 551 U.S. 158, 174 (2007).

114. *See*, *e.g.*, Colorado by & through Colorado Dep't of Nat. Res. v. United States Fish & Wildlife Serv., 362 F. Supp. 3d 951, 961 (D. Colo. 2018) (noting that Gunnison sage-grouse was proposed for listing as endangered, and finalized for listing as threatened).

115. Nat'l Wildlife Fed'n v. Norton, 386 F. Supp. 2d 553, 563–64 (D. Vt. 2005). *But see* Alaska Oil & Gas Ass'n v. Pritzker, No. 4:13-cv-00018-RRB, 2014 U.S. Dist. Lexis 101446 (D. Alaska July 25, 2014) (rejecting the argument that NMFS could not add DPS to listing rule during rulemaking process), *rev'd on other grounds*, 840 F. 3d 671 (9th Cir. 2016).

116. Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

considerations to play a role in listing determinations. Courts have occasionally agreed that this appeared to be the case, and remanded determinations.[117] In most cases, however, courts have rejected these claims.[118]

Bridging the gap between a purely procedural challenge and a substantive challenge is a claim that the agency did not adequately explain its reasoning. This claim has been made in many cases, and courts sometimes agreed with plaintiffs that the agency's explanation was inadequate.[119] One can speculate that courts prefer to use this justification for remand when the court disagrees with the agency's decision—it is far easier for a court to conclude that the agency failed to sufficiently show its work than it is for the court to find that the agency substantively erred, given the deferential standard of review applicable to the challenges to the determination itself. Note that the argument that the agency failed to explain its reasoning can also be styled as a violation of section 4(b)(8), which requires the agency to show the relationship between the data it is relying on and the conclusion reached.[120]

(d) Other Procedural Laws

There has been little litigation regarding the intersection of listing determinations and other federal laws. This is the result of Congress mandating that listing determinations be made "solely" on the basis of the best scientific and commercial data available, as noted earlier. Thus, other statutes and executive orders that generally apply to rulemaking, such as the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act, the Paperwork Reduction Act, and Executive Order 12866, do not apply to those determinations.[121] Several courts have confirmed this conclusion in the NEPA context.[122]

117. *See, e.g.*, Save Our Springs LDF, Inc. v. Babbitt, 27 F. Supp. 2d 739 (W.D. Tex. 1997).

118. *See, e.g.*, Western Watersheds Project v. USFWS, 2012 U.S. Dist. Lexis 13771 (D. Idaho Feb. 2, 2012) (stating that in challenge to warranted-but-precluded 12-month finding for greater sage-grouse, court engaged in close scrutiny of record because recommendation of FWS Regional Director included "politically-tinged observation" about interested parties; court ultimately upheld determination because final decision was free of political observations and based on the best science).

119. *Compare, e.g.*, Greater Yellowstone Coal., Inc. v. Servheen, 665 F.3d 1015 (9th Cir. 2011) (FWS did not adequately explain reasoning), *with, e.g.*, Humane Soc'y v. United States Fish & Wildlife Serv., 865 F. 3d 585 (D.C. Cir. 2017) (holding that the FWS adequately explained its reasoning).

120. *Compare* San Luis & Delta-Mendota Water Auth. v. Badgley, 136 F. Supp. 2d 1136 (E.D. Cal. 2000) (FWS violated section 4(b)(8)), *with* Kern Cnty. Farm Bureau v. Allen, 450 F.3d 1072 (9th Cir. 2006) (rejecting similar argument).

121. H.R. Conf. Rep. No. 97-835, at 19–20 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2860, 2861.

122. Pacific Legal Found. v. Andrus, 657 F.2d 829 (6th Cir. 1981); Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv., No. C04-04324 WHA, 2005 WL 2000928 (N.D. Cal. Aug. 19, 2005); *see also* 48 Fed. Reg. 49,244 (Oct. 25, 1983) (FWS adoption of Council on Environmental Quality's recommendation that section 4 listing actions are exempt from NEPA as a matter of law).

Nonetheless, at least one court enforced the Federal Advisory Committee Act (FACA) in the context of a listing determination for the Alabama sturgeon.[123] The Eleventh Circuit concluded that FWS had not complied with FACA because public observation and comment was not "contemporaneous to the advisory committee process itself."[124] The court found that "if public commentary is limited to retrospective scrutiny, [FACA] is rendered meaningless."[125] Therefore, notwithstanding ESA's mandate to use the best data available, the court enjoined FWS from using an advisory committee's report in making its listing determination.[126]

3. Remedies

In deadline cases, the remedy is often the only aspect of the case that is disputed. Courts have made it clear that the remedy in such cases will include a court-ordered deadline for completing the overdue action,[127] and the question therefore is simply how much time the court will provide. Courts have considered, or expressly declined to consider, a myriad of factors in setting deadlines, including the statutory time frame,[128] the degree to which the determination is overdue,[129] past failure to comply with deadlines,[130] the time since the filing of the suit,[131] the amount of work already done,[132] the amount of work yet to be done and applicable procedural requirements,[133] the scope and complexity of the work,[134] the need to do the work well,[135] the threats to the species and the importance of the determination,[136] the time frame recommended by the

123. Alabama-Tombigbee Rivers Coal. v. DOI, 26 F.3d 1103, 1106 (11th Cir. 1994).

124. *Id.*

125. *Id.*

126. *Id.* at 1107.

127. *See* Forest Guardians v. Babbitt, 174 F.3d 1178 (10th Cir. 1999).

128. *E.g.*, W. Watersheds Project v. Kempthorne, No. CV 07–161–E–MHW, 2008 WL 4649130, at *6 (D. Idaho Oct. 17, 2008).

129. *E.g.*, Ctr. for Biological Diversity v. Kempthorne, No. C 08-1339 CW, 2008 WL 1902703, at *3 (N.D. Cal. Apr. 28, 2008).

130. *E.g.*, Butte Env't Council v. Norton, No. CIV. S-04-0096 WBS/KJL, slip op. at 22–23 (E.D. Cal. Oct. 29, 2009).

131. *E.g.*, Sw. Ctr. for Biological Diversity v. Babbitt, CIV-96-1874-PHX-RGS, 1997 U.S. Dist. Lexis 23935, at *10 (D. Ariz. Mar. 20, 1997).

132. *E.g.*, All for the Wild Rockies v. Allen, No. 04–1813–JO, 2009 WL 2015407, at *2 (D. Or. July 1, 2009).

133. *E.g.*, Home Builders Ass'n of N. Cal. v. U.S. Fish & Wildlife Serv., No. CIV. S–05–0629 WBS–GGH, 2006 WL 3190518, at *32 n.27 (E.D. Cal. Nov. 2, 2006).

134. *E.g.*, Defenders of Wildlife v. Norton, 2004 WL 6243361, at *5 (D.D.C. Jan. 15, 2004).

135. *E.g.*, Ctr. for Biological Diversity v. Norton, No. 01CV2101IEGLAB, 2003 WL 22225620, at *5 (S.D. Cal. Sept. 9, 2003).

136. *E.g.*, Home Builders Ass'n of N. Cal. v. U.S. Fish & Wildlife Serv., No. CV F01–5722AWISMS, 2004 WL 1429920, at *3 (E.D. Cal. Jan. 14, 2004).

agency,[137] available funding,[138] competing priorities,[139] and the time given by other courts.[140]

Because of the uncertainty inherent in having a court set the deadline, the parties have often been able to negotiate a time frame for compliance and settle deadline cases. Although the MDL settlements just discussed were the most comprehensive in the history of the program, there have also been numerous settlements over the decades that involve actions for single or small groups of species.

Different remedy issues are involved in merits cases. If a listing determination changed the status quo, and the agency loses a challenge to that decision, the principal remedy issue is whether the determination at issue will be vacated while the action is remanded to the agency. It is fair to say that courts generally give the benefit of the doubt to the species during remand. Thus, decisions to list species have generally been left in place,[141] while decisions to delist have been vacated, thus putting the species at issue back on the list.[142] There have been only two exceptions to this pattern, in which courts have vacated listings.[143]

III. Emerging Issues and Future Directions

This section addresses six topics that have driven much of the policy-making attention in the listing program for the last dozen years, or appear likely to do so in the future. The first three topics relate to statutory terms embedded in the foundational definitions of the ESA: "in danger of extinction," "significant portion of its range," and "foreseeable future." One might have assumed that the meaning of these key terms would have been resolved early in the history of the ESA. Oddly, this is not the case. Instead, each of these terms flew under the radar for decades. But they have recently been grappled with to various degrees, and that engagement is likely to continue or intensify. The other topics in this section are a smorgasbord of issues relating to future implementation

137. *E.g.*, Fla. Home Builders Ass'n v. Norton, 496 F. Supp. 1330, 1336 (M.D. Fla. 2007).

138. *E.g.*, Ctr. for Biological Diversity v. Norton, No. 01CV2101IEGLAB, 2003 WL 22225620, at *3–4 (S.D. Cal. Sept. 9, 2003).

139. *E.g.*, Ctr. for Biological Diversity v. Norton, 212 F. Supp. 2d 1217, 1226 (S.D. Cal. 2002).

140. *E.g.*, Ctr. for Biological Diversity v. Norton, Civ. No. 02-1067 LH/RHS, 2003 WL 27384876, at *3 (D.N.M. Sept. 30, 2003).

141. *E.g.*, Idaho Farm Bureau v. Babbitt, 58 F.3d 1392, 1400–01 (9th Cir. 1995); Nat'l Ass'n. of Home Builders v. Norton, No. CIV 00-0903-PHX-SRB, 2004 WL 3740765, at *1 (D. Ariz. June 28, 2004); Endangered Species Comm. v. Babbitt, 852 F. Supp. 32 (D.D.C. 1994).

142. *E.g.*, Humane Soc'y of U.S. v. Zinke, 865 F.3d 585 (D.C. Cir. 2017).

143. Alaska Oil & Gas Ass'n v. Pritzker, No. 4:13-cv-00018-RRB, 2014 U.S. Dist. Lexis 101446, at *16 (D. Alaska July 25, 2014) (court simply noted that vacatur normally accompanies remand), *rev'd on other grounds*, 840 F. 3d 671 (9th Cir. 2016) (reversing merits, mooting question of appropriate remedy); Otter v. Salazar, No. 1:11-cv-00358-CWD, 2012 U.S. Dist. Lexis 111743 (D. Idaho Aug. 8, 2012) (listing vacated with discussion of appropriate remedy).

of the listing program: expanded use of conservation efforts and 4(d) rules, climate change, and congressional intervention in listing determinations.

A. "In Danger of Extinction"

This may be the most important phrase in the ESA, as it determines what qualifies as an "endangered species" (and therefore also what qualifies as a "threatened species"). The Services have never defined this term in regulations or broadly applicable guidance, but they have applied it thousands of times—they do so every time they list, delist, uplist, and downlist a species; every time they deny a petition to do so; and every time they add a species to the candidate list or conduct a five-year review of a listed species. In effect, in each of these decisions, the Services apply the facts to the statutory standards and use professional judgment to determine whether those facts support an endangered listing, a threatened listing, or a not-warranted determination (or delisting).[144]

Prior to 2010, court review of particular listing determinations had not added much elaboration. One court did agree that species that naturally occur in low densities do not warrant listing merely by virtue of their rarity, and that a declining population alone does not indicate that listing is warranted—the question is whether the decline is "so extensive or precipitous that the species may no longer survive."[145]

The black box at the core of listing determinations was opened to some degree as a result of litigation over the listing of the polar bear. FWS listed the polar bear as threatened, and was sued by a variety of plaintiffs, arguing either that FWS should not have listed the species or should have listed it as endangered. The court remanded the rule to FWS for the limited purpose of providing a supplemental explanation, given the court's finding that the term "in danger of extinction" was ambiguous.[146]

In its response memorandum, FWS explained its general understanding that the phrase refers to species "currently on the brink of extinction in the wild."[147] In justifying this understanding, FWS emphasized the "crucial temporal distinction" between the definitions of "endangered species" and "threatened species"—the use of "is" in the former "clearly connotes an established,

144. *See* Ctr. for Biological Diversity v. Badgley, No. CIV. 99-287-FR, 2001 WL 844399, at *24 (D. Or. June 28, 2001) (upholding FWS's use of the statutory definitions without defining biological criteria to apply), *aff'd*, 335 F.3d 1097 (9th Cir. 2003).

145. Sw. Ctr. for Biological Diversity v. Norton, No. 98-934, 2002 U.S. Dist. Lexis 13661 (D.D.C. July 29, 2002) (magistrate's recommendation), *adopted in part*, slip op. (D.D.C. May 24, 2004). Neither must a species be declining to be listed. *Coal. for Stable Econ. Growth v. DOI*, No. 94-1058-M Civil, 1998 U.S. Dist. LEXIS 22019, at *14–15 (D.N.M. Mar. 20, 1998).

146. *In re* Polar Bear Endangered Species Act Listing & § 4(d) Rule Litigation, 748 F. Supp. 2d 19, 30 (D.D.C. 2010).

147. Memorandum from Daniel M. Ashe, Acting Director, Fish and Wildlife Serv., Supplemental Explanation for the Legal Basis of the Department's May 15, 2008, Determination of Threatened Status for Polar Bears 3 (Dec. 22, 2010), https://www.fws.gov/endangered/esa-library/pdf/20101222_Polar%20bear%20listing%20clarification%20memo.pdf.

present condition," whereas the use of "likely to become" in the latter "equally clearly connotes a predicted or expected future condition."[148] A corollary to this distinction is that a determination that a species is endangered (as opposed to threatened) should not need to rely on extrapolation of existing threats or trends into the future.

In explaining it general understanding of "in danger of extinction," FWS stated two important caveats. First, FWS's description of its understanding was descriptive, not proscriptive: "this explanation does not set forth a new statement of agency policy, nor is it a 'rule' as defined in the Administrative Procedure Act."[149] In part, this is because listing determinations are necessarily highly fact specific: "Due to the complexity of biological systems and processes, the diversity of the life histories of individual species, and differences in the amount and quality of data to inform individual listing determinations, those determinations are contextual and fact dependent . . . ."[150] FWS's general understanding is therefore "subject to modification with its application to the particular facts at issue."[151] Second, presumably to fend off any overly narrow reading of its general understanding, FWS explained what that understanding did *not* mean: "to be currently on the brink of extinction in the wild does not necessarily mean that extinction is certain or inevitable, or even that it is more likely than not. Rather, a species can be on the brink of extinction indefinitely without becoming extinct."[152] In other words, although the risk of extinction must be currently present due to current conditions, that risk may be low.

To elaborate what the general understanding means when applied to the myriad fact patterns that species present, FWS looked to its past determinations and divined four general categories of species that it had listed as endangered: (1) "Species facing a catastrophic threat from which the risk of extinction is imminent and certain"; (2) "Narrowly restricted endemics that, as a result of their limited range or population size, are vulnerable to extinction from elevated threats"; (3) "Species formerly more widespread that have been reduced to such critically low numbers or restricted ranges that they are at a high risk of extinction due to threats that would not otherwise imperil the species"; and (4) "Species with still relatively widespread distribution that have nevertheless suffered ongoing major reductions in numbers, range, or both, as a result of factors that have not been abated."[153]

The remainder of the memorandum provides a detailed legal justification for FWS's general understanding, and discusses how FWS had applied it in making the polar bear listing determination.

148. *Id.* at 7.
149. *Id.* at 1.
150. *Id.* at 3.
151. *Id.*
152. *Id.*
153. *Id.* at 4–6. FWS also noted that the last category is a matter of degrees: depending on the specifics, a species in this category may only be threatened. *Id.* at 6.

After remand, the court upheld the listing. Despite the court's acknowledgment that it did not require FWS to adopt prospective policy or follow rulemaking procedures, the court applied step two of *Chevron* to FWS's interpretation in the memorandum.[154] On the merits, the court noted that FWS's "general understanding" was "not clearly out of line with congressional intent."[155] The court reiterated that there is a temporal element to the distinction between an endangered species and a threatened species.[156] On appeal, the D.C. Circuit affirmed.[157]

Notwithstanding the disclaimer in the polar bear memorandum that it was not setting prospective agency policy, one court concluded that FWS had used it in that way in a subsequent listing determination. In that case, FWS had previously made a warranted-but-precluded 12-month finding that the Cabinet-Yaak population of grizzly bear was endangered. According to the court, when FWS made a subsequent determination that that population was not endangered, it did so based on a change in policy, which applied for the first time the interpretation that a species must be "on the brink of extinction" to be endangered.[158] The court then found that doing so violated the APA, because FWS did not acknowledge that it was applying a new policy, or explain why the policy was permissible and better than the prior interpretation.[159]

It remains to be seen whether the Services will define "in danger of extinction" through an APA rulemaking process, and, if they do, whether they will use the polar bear remand memorandum as a starting point.

B. "Significant Portion of Its Range"

Another phrase in the key definitions, "significant portion of its range" (sometimes referred to as "SPR" or "SPOIR") has received much more attention over the last 17 years, after decades of being free from explicit consideration. What constitutes a significant portion of a species' range, and what is the result if a species is endangered or threatened there? Again, as of 2001, when the issue was raised in litigation involving the flat-tailed horned lizard, there was no relevant case law, and the Services had never issued a regulatory definition or policy guidance. Since that time, there have been more than 40 judicial opinions on the subject, two opinions by the Solicitor of the Department of the Interior, and a 34-page binding joint policy issued by the Services after notice and comment.

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154. *In re* Polar Bear Endangered Species Act Listing & § 4(d) Rule Litigation, 794 F. Supp. 2d 65, 89 (D.D.C. 2011), *aff'd*, 709 F.3d 1 (D.C. Cir. 2013).

155. *Id.*

156. *Id.* at 89, n.27.

157. *In re* Polar Bear Endangered Species Act Listing & § 4(d) Rule Litigation, 709 F.3d 1, 11 (D.C. Cir. 2013) (noting that the fact that the science suggests that some populations would remain throughout the foreseeable future "does not undermine FWS's decision to list the species as threatened, but rather supports the agency's decision not to list it as endangered").

158. Alliance for the Wild Rockies v. Zinke, 265 F. Supp. 3d 1161, 1180 (D. Mont. 2017).

159. *Id.* at 1180–81.

In the challenge to its decision not to list the lizard, *Defenders of Wildlife v. Norton*,[160] FWS argued that the "significant portion of its range" language merely clarified that a portion of the range could be so important to the conservation of the species that threats to it there would threaten the entire species.[161] After determining that the phrase is inherently ambiguous, the Ninth Circuit roundly rejected this argument, concluding that it would render superfluous the language "all or" in the phrase "all or a significant portion of its range."[162] The court also rejected plaintiffs' quantitative approach, based on the predicted percentage reduction of the range.[163] After analyzing the legislative history, the court concluded that

> a species can be extinct "throughout . . . a significant portion of its range" if there are major geographical areas in which it is no longer viable but once was. Those areas need not coincide with national or state political boundaries, although they can. The Secretary necessarily has a wide degree of discretion in delineating "a significant portion of its range," since the term is not defined in the statute. But where, as here, it is on the record apparent that the area in which the lizard is expected to survive is much smaller than its historical range, the Secretary must at least explain her conclusion that the area in which the species can no longer live is not a "significant portion of its range."[164]

After *Defenders*, the Services lost a series of cases in district courts on SPR grounds,[165] although the Services did win two cases.[166] In light of the confusion over the proper place of "significant portion of its range" in listing determinations, in 2007 the Solicitor of the Department of the Interior issued a detailed legal opinion on the topic. That opinion agreed with the *Defenders* decision that the SPR language did not merely clarify that data was not required from all of a species range to list the species, and instead provided a "substantive standard for determining whether a species [warrants listing]."[167] Beyond that, the Solicitor left it to FWS to provide substance to what would be considered "significant," although the Solicitor noted that "range" necessarily referred to the then-current range of the species, not its historical range.[168] The Solicitor

160. Defenders of Wildlife v. Norton, 258 F.3d 1136 (9th Cir. 2001).

161. *Id.* at 1141–42; *see also* Memorandum-37013 from Office of the Solicitor, The Meaning of "In Danger of Extinction Throughout All or a Significant Portion of Its Range" at 2 (Mar. 16, 2007), https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37013_0.pdf.

162. *Defenders of Wildlife*, 258 F.3d at 1141–43.

163. *Id.* at 1143–44.

164. *Id.* at 1145.

165. Memorandum-37013 from Office of the Solicitor, The Meaning of "In Danger of Extinction Throughout All or a Significant Portion of Its Range" at 1, n.2 (Mar. 16, 2007), https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37013_0.pdf.

166. *Id.* at 2 & n.4.

167. *Id.* at 3.

168. *Id.*

also concluded that if a species was found to be threatened or endangered in a significant portion of its range, it would be listed only in that portion.[169]

On the latter point, two district courts quickly disagreed, holding this to be contrary to the ESA.[170] A successor Solicitor withdrew the opinion,[171] and the Services embarked on a multiyear effort to promulgate a policy defining this phrase and its role in listing analyses. In 2014, the Services issued their final policy after notice and comment.[172] The SPR Policy built on the foundation laid by the 2007 Solicitor's opinion, although it reached the opposite result regarding the effect of a determination that a species is threatened or endangered in a significant portion of its range: consistent with the subsequent case law, the Services concluded that the entire species must then be listed. The policy then concluded that

> [a] portion of the range of a species is "significant" if the species is not currently endangered or threatened throughout its range, but the portion's contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range.[173]

In other words, significance depends on whether the loss of the portion would render threatened or endangered a species that otherwise doesn't warrant listing. The SPR Policy also codified the Solicitor's conclusion that this phrase relates to the current range of the species, and that lost historical range cannot itself constitute a significant portion of a species' range.

Unsurprisingly, given the universal agreement by the courts that "significant portion of its range" is ambiguous, courts have afforded the SPR Policy *Chevron* deference.[174] And notwithstanding language to the contrary in yet another Ninth Circuit decision regarding the flat-tailed horned lizard issued before the policy,[175] a number of courts have now found that it is reasonable to interpret "range" to refer to present range.[176]

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169. *Id.*

170. Defenders of Wildlife v. Salazar, 729 F. Supp. 2d 1207 (D. Mont. 2010), *vacated as moot*, No. 10-35885, slip op., (9th Cir. Nov. 7, 2012); WildEarth Guardians v. Salazar, No. CV-09-00574-PHX-FJM, 2010 U.S. Dist. Lexis 105253 (D. Ariz. Sept. 30, 2010).

171. Memorandum-37024 from Office of the Solicitor, Withdrawal of M-37013—The Meaning of "In Danger of Extinction Throughout All or a Significant Portion of Its Range" (May 4, 2011), https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37024.pdf.

172. Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species," 79 Fed. Reg. 37,578 (July 1, 2014) (to be codified at 50 C.F.R. ch. II).

173. *Id.* at 37,609.

174. WildEarth Guardians v. Jewell, 134 F. Supp. 3d 1182, 1192 (D. Ariz. 2015); Ctr. for Biological Diversity v. Jewell, 248 F. Supp. 3d 946, 955–56 (D. Ariz. 2017).

175. Tucson Herpetological Soc'y v. Salazar, 566 F.3d 870, 879 (9th Cir. 2009).

176. Humane Soc'y of U.S. v. U.S. Fish & Wildlife Serv., 865 F. 3d 585 (D.C. Cir. 2017); Defenders of Wildlife v. Jewell, 176 F. Supp. 3d 975 (D. Mont. 2016); Ctr. for Biological

Other aspects of the SPR Policy have not fared well in the courts. One court, while rejecting a number of challenges to the policy, held that the policy's definition of "significant" is not a permissible construction.[177] The court found that the definition was indistinguishable from the interpretation rejected by *Defenders*, and thus still renders the statutory phrase surplusage.[178] A second court adopted this reasoning[179] and vacated this aspect of the SPR Policy (while leaving the other aspects in place).[180] At the time of this writing, the Services are back to making case-by-case determinations of significance, without benefit of the vacated definition.[181] In addition, a court recently vacated yet another aspect of the definition of "significant" under the SPR Policy: that a portion can only be significant if the species is not currently endangered or threatened throughout all of its range.[182] Under this decision, if one of the Services determines that a species is threatened throughout all of its range, it would still need to determine if the species is endangered throughout a significant portion of its range.

C. "Foreseeable Future"

The definition of "threatened species" revolves around the phrase "foreseeable future." Again, only in recent years has the meaning of "foreseeable future" gotten much attention. As with "in danger of extinction," the listing of the polar bear at last shined a spotlight on this definitional issue. FWS broke new ground in determining that it could reasonably extrapolate the future of sea-ice recession, and the bear's response to that recession, for more than 40 years.[183] This ability to foresee was crucial to FWS's analysis, as at the time of the determination the species appeared to be in relatively good shape. In the challenge to the polar bear listing, both the district court and the D.C. Circuit upheld FWS's analysis of the foreseeable future as a reasoned judgment in light of the best data available.[184]

The increased interest in this issue caused by the polar bear listing, as well as FWS's need for guidance in applying "foreseeable future," resulted in the

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Diversity v. Zinke, 900 F.3d 1053, 1063–67 (9th Cir. 2018).

177. Ctr. for Biological Diversity v. Jewell, 248 F. Supp. 3d 946 (D. Ariz. 2017).

178. *Id.* at 956–58.

179. Desert Survivors v. DOI, 321 F. Supp. 3d 1011, 1070–74 (N.D. Cal. 2018).

180. Desert Survivors v. DOI, 336 F. Supp. 3d 1131, 1137 (N.D. Cal. 2018). It appears that courts will now summarily vacate decisions that relied on the vacated definition. *See* Friends of Animals v. Ross, 396 F. Supp. 3d 1 (D.D.C. 2019).

181. *E.g.*, Endangered and Threatened Wildlife and Plants; 12-Month Petition Finding and Endangered Species Status for the Missouri Distinct Population Segment of Eastern Hellbender, 84 Fed. Reg. 13,223, 13,230–31 (Apr. 4, 2019).

182. Ctr. for Biological Diversity v. Everson, 435 F. Supp. 3d 69 (D.D.C. 2020).

183. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Polar Bear (Ursus maritimus) Throughout Its Range, 73 Fed. Reg. 28,211, 28,253–54 (May 15, 2008).

184. *In re* Polar Bear Endangered Species Act Listing & § 4(d) Rule Litigation, 794 F. Supp. 2d 65 (D.D.C. 2011), *aff'd*, 709 F.3d 1 (D.C. Cir. 2013).

Solicitor of the Department of the Interior issuing in 2009 a legal opinion on this subject as well. The Solicitor concluded that "Congress intended the term 'foreseeable future' to describe the extent to which the Secretary can reasonably rely on predictions about the future in making determinations about the future conservation status of the species."[185] The Solicitor also provided ten points of guidance to FWS in exercising its discretion in analyzing the foreseeable future for a particular determination.[186] Among those points were that "reliable" does not mean certain, but it excludes speculation, and that the foreseeable future need not be reduced to a single, specific period of time.

The polar bear litigation and the Solicitor's legal opinion did not end controversy regarding "foreseeable future." NMFS borrowed the principles of DOI's legal opinion to support listing determinations for additional ice-dependent species that NMFS has jurisdiction over. First, NMFS declined to list the ribbon seal, concluding that it would not be in danger of extinction within the 50-year foreseeable future. A court upheld this decision against a challenge from an environmental group, deferring to NMFS's conclusion that climate models were too uncertain thereafter.[187] Then, in determining to list the bearded and ringed seals, NMFS concluded that new information resulted in a foreseeable future extending to 2100.[188] An industry group challenged both listing determinations. Both listings were vacated by the same district court judge in Alaska, who concluded on the facts before the court that it was speculative to look more than 50 years into the future.[189] And both district court opinions were reversed by the Ninth Circuit on appeal, which found NMFS's analysis to be reasonable and scientifically supported, not arbitrary and capricious.[190] Most recently, a court upheld FWS's decision that listing the Pacific walrus was not warranted, holding in particular that FWS adequately explained its decision to limit the foreseeable future to 2060 rather than 2100.[191]

185. Memorandum-37021 from Office of the Solicitor, The Meaning of "Foreseeable Future" in Section 3(20) of the Endangered Species Act, at 1 (Jan. 16, 2009), https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf.

186. *Id.* at 12–14.

187. Ctr. for Biological Diversity v. Lubchenco, 758 F. Supp. 2d 945 (N.D. Cal. 2010).

188. Endangered and Threatened Species; Threatened Status for the Beringia and Okhotsk Distinct Population Segments of the Erignathus barbatus nauticus Subspecies of the Bearded Seal, 77 Fed. Reg. 76,740, 76,741 (Dec. 28, 2012); Endangered and Threatened Species; Threatened Status for the Arctic, Okhotsk, and Baltic Subspecies of the Ringed Seal and Endangered Status for the Ladoga Subspecies of the Ringed Seal, 77 Fed. Reg. 76,706, 76,707 (Dec. 28, 2012).

189. Alaska Oil & Gas Ass'n v. Pritzker, No. 4:13-cv-00018-RRB, 2014 U.S. Dist. Lexis 101446 (D. Alaska July 25, 2014) *rev'd*, 840 F.3d 671 (9th Cir. 2016) (bearded seal); Alaska Oil & Gas Ass'n v. Nat'l Marine Fisheries Serv., No. 4:14-cv-00029-RRB, 2016 WL1125744 (D. Alaska Mar. 17, 2016), *rev'd*, 2018 WL 821866 (9th Cir. Feb. 18, 2018) (ringed seal).

190. Alaska Oil & Gas Ass'n v. Pritzker, 840 F.3d 671 (9th Cir. 2016) (bearded seal); Alaska Oil & Gas Ass'n v. Nat'l Marine Fisheries Serv., 722 Fed. Appx. 666 (9th Cir. Feb. 18, 2018) (ringed seal).

191. Ctr. for Biological Diversity v. Bernhardt, No. 3:18-cv-00064-SLG, slip op. at 26–32 (D. Alaska Sept. 26, 2019).

On August 27, 2019, FWS and NMFS revised the ESA implementing regulations to include a "framework for the foreseeable future."[192] The agencies described the regulations as codifying the Solicitor's legal opinion and their current practice.[193] The regulatory text now states:

> The term foreseeable future extends only so far into the future as the Services can reasonably determine that *both* the future *threats and the species' responses to those threats* are *likely*. The Services will describe the foreseeable future on a case-by-case basis, using the best available data and taking into account considerations such as the species' life-history characteristics, threat-projection timeframes, and environmental variability. The Services need not identify the foreseeable future in terms of a specific period of time.[194]

In effect, the first sentence quoted here elaborates on the legal opinion's standard of reasonable reliance.

A number of environmental groups and states have already filed suit challenging a number of aspects of the new regulations, including the language regarding foreseeable future.[195]

D. Conservation Efforts: Use in 4(d) Rules

All interested parties agree that it is best to conserve species such that they do not need to be listed. FWS has created a number of programs and associated policies to encourage conservation of species that are not (yet) listed. Candidate Conservation Agreements are mostly used with other government agencies, and provide a strategy or specific measures to conserve candidate species.[196] Candidate Conservation Agreements with Assurances (a tool shared with NMFS) are similar, but are usually entered into with private parties, and offer the possibility of receiving a section 10 permit if the species is in fact listed.[197] And the Policy Regarding Voluntary Prelisting Conservation Actions

192. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020 (Aug. 27, 2019).

193. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 83 Fed. Reg. 35,193, 35,195–96 (July 25, 2018) (proposed rule); *see also* Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020, 45,026–34 (Aug. 27, 2019).

194. 50 C.F.R. § 424.11(d).

195. Ctr. for Biological Diversity v. Bernhardt, No. 3:19-cv-05206, complaint (N.D. Cal. filed Aug. 21, 2019); California v. Bernhardt, No. 3:19-cv-06013 complaint (N.D. Cal. filed Sept. 25, 2019).

196. *Candidate Conservation Agreements*, U.S. Fish & Wildlife Serv. (Oct. 2017), https://www.fws.gov/endangered/esa-library/pdf/CCAs.pdf.

197. Candidate Conservation Agreements With Assurances Policy, 81 Fed. Reg. 95164 (Dec. 27, 2016); *see* 50 C.F.R. § 17.32(d).

creates the possibility of receiving a transferrable mitigation credit for conservation actions taken prior to listing.[198]

How to properly address conservation efforts in listing determinations, discussed earlier in "Section 4 in the Courts," has taken on increased urgency in recent years, as FWS has published long-term work plans for the listing program. Interested parties can now tell approximately how long it will be before FWS makes a listing determination, and can work toward putting in place conservation measures that may ameliorate the threats sufficiently that, when a final listing determination is made, the species doesn't warrant listing. The most well-known example of this dynamic is the listing determination for the greater sage-grouse. In 2010, FWS had determined that the species was warranted for listing, but precluded, then relied heavily of conservation efforts, particularly by the Bureau of Land Management, in ultimately concluding in 2015 that it did not warrant listing.[199]

In some situations recently, the conservation measures have taken the form of elaborate, state-run comprehensive conservation plans. For example, in 2010, FWS proposed to list the dune sagebrush lizard as endangered.[200] FWS explained that oil and gas development in the lizard's range in Texas and New Mexico was caused by habitat loss and fragmentation. The lizard benefited from conservation measures in New Mexico, but there were not equivalent measures in place in its extensive range in Texas. After the proposed rule, the state of Texas also put a plan into place. Under that plan, landowners worked with Texas or its contractor to develop site-specific conservation measures that focused on avoidance of detrimental activities in lizard habitat, or required mitigating lost habitat as a last resort. The plan also limited the total amount of habitat that can be lost.[201] In reliance on that plan, FWS withdrew the proposed listing rule in 2012.[202] Environmental groups challenged the withdrawal, but the district and circuit courts agreed that FWS's consideration of the conservation plans under PECE was not arbitrary and capricious.[203]

Even when conservation measures do not sufficiently ameliorate threats such that listing is not warranted, they can play a role in determining what protections the Services put in place for threatened species under section 4(d). For example, when FWS listed the lesser prairie-chicken, it also issued a 4(d) rule that expressly incorporated a range-wide conservation plan. That

198. *735 FW 1 Policy Regarding Voluntary Prelisting Conservation*, U.S. Fish & Wildlife Serv. (May 31, 2018), https://www.fws.gov/policy/735fw1.html.

199. Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List Greater Sage-Grouse (Centrocercus urophasianus) as an Endangered or Threatened Species, 80 Fed. Reg. 59,857 (Oct. 2, 2015).

200. Endangered and Threatened Wildlife and Plants: Endangered Status for Dunes Sagebrush Lizard, 75 Fed. Reg. 77,801–02 (Dec. 14, 2010).

201. Endangered and Threatened Wildlife and Plants: Withdrawal of the Proposed Rule to List Dunes Sagebrush Lizard, 77 Fed. Reg. 36,872–01, 36,885 (June 19, 2012).

202. *Id.*

203. Defenders of Wildlife v. Jewell, 70 F. Supp. 3d 183 (D.D.C. 2014), *aff'd sub nom.* Defenders of Wildlife & Ctr. for Biological Diversity v. Jewell, 815 F.3d 1 (D.C. Cir. 2016).

4(d) rule imposed typical prohibitions on take, but made an exception for incidental take "from activities that are conducted by a participant enrolled in, and operating in compliance with" the range-wide conservation plan.[204]

There is a spirited debate in the conservation community as to whether this use of 4(d) rules is wise. Some view reflecting conservation efforts in 4(d) rules as a much-needed tool that is having a significant net positive impact on species conservation and public perception.[205] In contrast, critics have argued that the Services have abused the flexibility provided by 4(d) and caved in to political pressure by creating loopholes that favor industries whose activities contribute to the imperilment of threatened species.[206] It is likely that this debate will intensify as the Services continue to increase their support of comprehensive conservation efforts.

E. Climate Change

Many species are finely tuned by evolution to thrive in narrow ecological niches defined by particular environmental conditions. Thus, changes to those conditions, including climate, can have significant effects on species conservation. As a result, when conducting status reviews the Services now routinely consider the best data available on the potential effects of climate change on the species.[207]

Once again, the listing of the polar bear played an important role. Although technically not the first listing driven by climate change (two species of coral get that distinction),[208] it was the first such listing that caught the public imagination. In the final listing, FWS dutifully considered all of the factors affecting or likely to affect polar bear conservation over the foreseeable future,

204. Endangered and Threatened Wildlife and Plants: Special Rule for the Lesser Prairie-Chicken, 79 Fed. Reg. 20,074–01, 20,084 (Apr. 10, 2014). Note that the Services have a long history of considering conservation measures in formulating 4(d) rules, even if those measures were not created to forestall listing. For example, NMFS promulgated a complex 4(d) rule for multiple taxa of salmonids in 2000. That rule imposes broad take prohibitions, but provides numerous "limits" to those prohibitions, including a number that relate to conservation plans, such as NMFS-approved fishery-management plans and joint State/Tribal management plans. 50 C.F.R. § 223.203.

205. Paul Henson, Rollie White, & Steven P. Thompson, *Improving Implementation of the Endangered Species Act: Finding Common Ground Through Common Sense*, 68 Bioscience 861, 865 (Oct. 2018).

206. *E.g.*, Tanya Sanerib, Cynthia Elkins, & Noah Greenwald, *Lethal Loopholes: How the Obama Administration Is Increasingly Allowing Special Interests to Endanger Rare Wildlife* (Feb. 2016), https://www.biologicaldiversity.org/publications/papers/LethalLoophole.pdf.

207. *See* J.B. Ruhl, *Listing Endangered and Threatened Species*, *in* Endangered Species Act: Law, Policy, and Perspectives 33–34 (Donald C. Baur & Wm. Robert Irvin eds., 2d ed. 2009). *But see* Colo. River Cutthroat Trout v. Salazar, 898 F. Supp. 2d 191, 206–07 (D.D.C. 2012) (holding that FWS was not required to consider impacts of climate change where plaintiffs did not raise issue in their comments and record contained only occasional, ambivalent references to climate-change-related threats).

208. Endangered and Threatened Species: Final Listing Determinations for Elkhorn Coral and Staghorn Coral, 71 Fed. Reg. 26,852–01 (May 9, 2006).

including hunting and potential oil spills. But the conclusion was driven by projections of climate-change-induced sea-ice decline.[209]

Since the polar bear listing, the Services have listed a number of species due largely to climate change. As noted previously in the discussion of "foreseeable future," NMFS has listed several seals species (bearded and ringed) that share the ecological needs of polar bears (and in fact are primary prey for polar bears).

The Services have also declined to list several species that petitioners asserted should be listed at least in part due to climate change.[210]

The deferential standard of review is doubly beneficial to the Services in this context, as both the science of climate change itself and the effect that climate change has on species are on the "frontiers of science."[211] Courts have generally deferred to the Services' conclusions in listing determinations with respect to climate change when the Services list species;[212] the record is mixed when they decline to list species.[213]

Addressing climate change in listing determinations has paradoxically gotten both easier and harder since the listing of the polar bear. It has gotten easier because the best data available has gotten better. The science behind climate-change projections continues to mature, and of course we have more data points over time that can be used to refine and validate that science. Put in the terms of the ESA, that data allows for more confidence in making reasonable projections about the future climate, including at the smaller

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209. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Polar Bear (Ursus maritimus) Throughout Its Range, 73 Fed. Reg. 28,211, 28,292–93 (May 15, 2008).

210. Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions to List Eight Species as Endangered or Threatened Species, 84 Fed. Reg. 41,694, 41,696–97 (Aug. 15, 2019) (Joshua tree); Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions to List 13 Species as Endangered or Threatened Species, 83 Fed. Reg. 65,127, 65,129 (Dec. 29, 2018) (Cedar Key mole skink); Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions To List 25 Species as Endangered or Threatened Species, 82 Fed. Reg. 46,618, 46,642–44 (Oct. 5, 2017) (Pacific walrus); Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List the American Pika as Threatened or Endangered, 75 Fed. Reg. 6438 (Feb. 9, 2010) (American pika).

211. *In re* Polar Bear Endangered Species Act Listing & § 4(d) Rule Litig., 818 F. Supp. 2d 214, 219 (D.D.C. 2011).

212. Alaska Oil & Gas Ass'n v. Pritzker, 840 F.3d 671, 678–84 (9th Cir. 2016) (bearded seal); *In re* Polar Bear Endangered Species Act Listing & § 4(d) Rule Litig., 794 F. Supp. 2d 65, 104–06 (D.D.C. 2011), *aff'd*, 709 F.3d 1 (D.C. Cir. 2013)

213. *Compare* Ctr. for Biological Diversity v. Jewell, 868 F. 3d 1054 (9th Cir. 2017) (FWS was not arbitrary and capricious in concluding that climate change was not a significant threat to bald eagles in the southwest), *and* WildEarth Guardians v. Salazar, No. 10-CV-0002-WPJ/SMV, 2014 WL 10209231, at *11 (D.N.M. July 30, 2014) (same with respect to Sacramento Mountains checkerspot butterfly), *with* Ctr. for Biological Diversity v. Zinke, 900 F.3d 1053, 1072 (9th Cir. 2018) ("By failing to explain why the uncertainty of climate change favors not listing the arctic grayling when the 2014 Finding acknowledges the warming of water temperatures and decreasing water flow because of global warming, FWS acted in an arbitrary and capricious manner."), *and* Defenders of Wildlife v. Jewell, 176 F. Supp. 3d 975, 1001–05 (D. Mont. 2016) (remanding withdrawal of proposed listing for wolverine).

geographic scales that are relevant to species less wide-ranging than polar bears. In other words, the foreseeable future with respect to the impacts of climate change is increasing, and climate-change data is becoming more useful in listing determinations.

At the same time, addressing climate change in listing determinations has gotten harder because discussion of climate change has become increasingly politically polarized. Thus, some organizations may press the Services to strain against the frontiers of science to list species,[214] whereas others may strongly criticize the Services for relying on climate science. Of course, the ESA itself is agnostic on such matters, requiring the Services to use their expertise to identify the best data available, and make listing determinations on the basis of that data.

One of the issues raised by consideration of climate change in listing decisions is how the ESA can protect species from the effects of climate change. Some argue that it is inappropriate to list species because of climate change, as the conservation measures available under the ESA cannot reduce that threat. As a result, the argument goes, listing can only serve to impose regulations (and costs) that will do nothing to forestall or avoid the risk of extinction. Regardless of whether that view is correct, it is legally irrelevant. Section 4 does not make "whether listing will make a difference" a relevant factor in listing determinations,[215] nor, as discussed earlier, does it allow the sort of cost-benefit analysis in which such a fact could tip the balance.

The fact that most of the effects of climate change are in the future suggests that, at least in the near future, species listed due primarily to climate change will be listed as threatened, rather than endangered, species. This suggests the possibility of the Services promulgating 4(d) rules for such species especially geared to the climate-change context. Those 4(d) rules may be able to focus protective measures on those threats, if any, that may have important synergistic effects with climate change, while at the same time declining to regulate activities or consequences that are unlikely to be relevant to the long-term conservation of the species.

F. Congressional Action

Congress has not been entirely content to be a clock maker god of the ESA, designing the statute's intricate gears and letting it run without intervention. With regard to listing determinations, Congress has tweaked the definition of "species"[216] and added detailed procedural requirements and deadlines

214. This may be the motivation for the petition and deadline lawsuit regarding the emperor penguin, an ice-dependent Antarctic species. *See* Ctr. for Biological Diversity v. Bernhardt, No. 19-2282, Complaint (D.D.C. filed July 31, 2019).

215. *See* Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020, 45,034 (Aug. 27, 2019).

216. An Act to Amend the Endangered Species Act of 1973, Pub. L. No. 95-632, § 2(5), 92 Stat. 3751 (1978).

to listing.[217] Of course, Congress also must continually power the clock by appropriating funds for the Services to make listing determinations. Congress once stopped the clock completely by zeroing out funding and prohibiting FWS from making listing determinations.[218]

But these interventions were generic, concerned with how the Services generally ran the listing program. The final emerging issue is Congress's newfound willingness to insert itself into particular listing determinations. When a court vacated FWS's attempt to delist the Montana and Idaho portion of the range of the gray wolf,[219] Congress passed legislation that required FWS to republish the delisting and shielded that determination from judicial review.[220] This legislation was challenged as being a violation of the separation of powers, but the Ninth Circuit upheld its constitutionality.[221]

Congress's unprecedented action regarding the wolf delisting appears to have awakened a new generation of representatives and senators to the fact that they have the power, should they choose to exercise it, to affect individual listing determinations. Since Congress intervened with respect to the wolf, numerous bills have been introduced to revise the ESA with the direct effect of undoing the effects of other judicial actions, or to simply prohibit FWS from making certain determinations.[222] A few have taken effect. For example, FWS's budget since fiscal year 2015 has included a prohibition on issuing proposed rules under section 4 for the greater sage-grouse.[223]

This congressional muscle flexing has led to deep concern among those who think that having set the ESA in motion, Congress should leave individual decisions to its metaphorical priesthood of scientists, rather than concern itself with the earthly application of its law. The critics believe that the ESA works best if decisions on what to protect are made solely on the basis of conservation necessity,[224] and fear the outcome of the actions of a potentially capricious (but not necessarily arbitrary) god. Of course, the Services are by law confined to considering only the best available data in making decisions, but Congress retains its godlike powers to hurl listing bolts from above. Time will tell whether Congress will choose to refrain from the temptation to work further miracles, or if it will further embrace its ability to legislatively resolve controversial listing issues.

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217. Endangered Species Act Amendments of 1982, Pub. L. No. 97-304, 1982 U.S.C.C.A.N. (96 Stat.) 1411.

218. *See* Jesup, *Endless War*, *supra* note 88, at 344.

219. Defenders of Wildlife v. Salazar, 729 F. Supp. 2d 1207 (D. Mont. Aug. 5, 2010), *vacated as moot*, slip op., No. 10-35885 (9th Cir. Nov. 7, 2012).

220. Dep't of Defense and Full-Year Continuing Appropriations Act of 2011, Pub. L. No. 112-10, § 1713, 125 Stat. 38 (Apr. 15, 2011).

221. Alliance for the Wild Rockies v. Salazar, 672 F.3d 1170 (9th Cir. 2012).

222. *See* Zachary Bray, *The Hidden Rise of 'Efficient' (De)listing*, 73 Md. L. Rev. 389, 419–44 (2014).

223. *See* Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. No. 113-235, § 122, 128 Stat. 2130, 2421–22 (2014).

224. *See* Bray, *supra* note 222, at 454–56.

IV. Conclusion

So, what does the foreseeable future hold for listing and delisting determinations under the ESA? We may be at an inflection point in the history of the listing program. Only twice before has Congress been more interested in listing: during the early 1980s, which led to the substantial reform of section 4 to prevent administrative foot-dragging, and during the mid-1990s, which led to the listing moratorium. Will Congress amend section 4, defund the listing function, or reach down and work miracles with respect to individual species? And what developments will the other two branches of government precipitate? Will the Services advance additional revisions to the section 4 regulations, or otherwise change its approach to implementation of the listing program? And if not, will the courts provide new interpretive glosses on the language of the ESA, or otherwise upset the status quo? And what role will the public and non-governmental organizations play? Will the Services be buried by new listing petitions or deadline litigation? Will the challenges to the recent revisions to the section 4 regulations be successful? We'll see what happens.